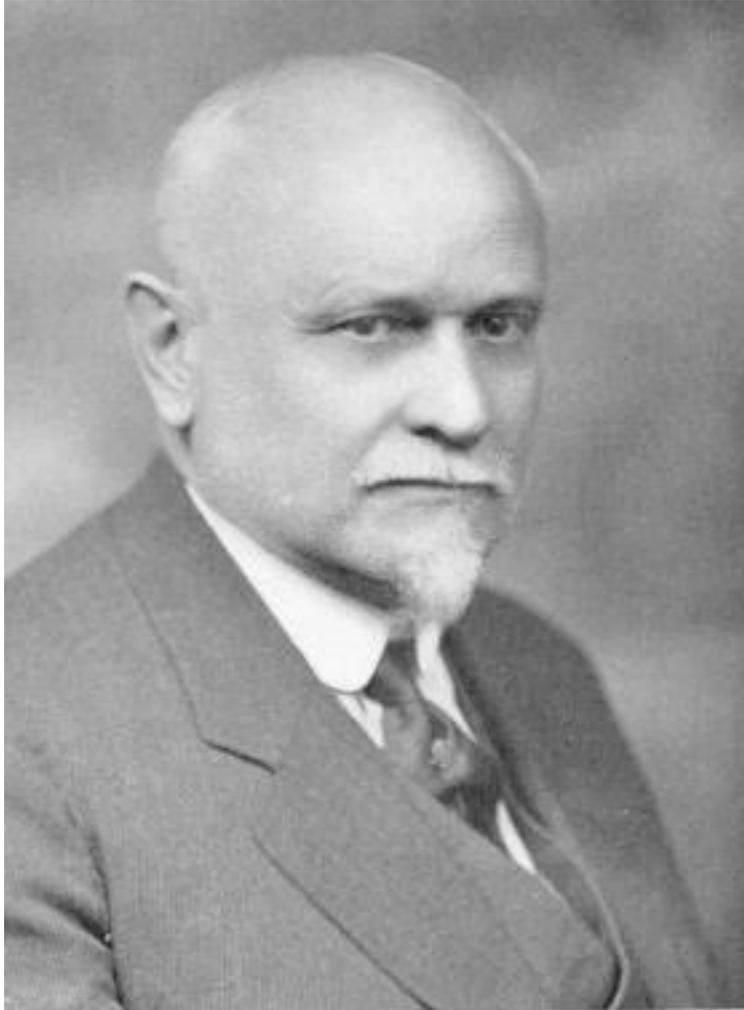


William Herrmann Dieffenbach



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1911 - The Proving of Radium Bromide

“Radium was discovered in 1898 by Professor and Madame Curie, of Paris, who, working conjointly along definite lines, announced to the world the discovery of a new element and described some of its properties. A few years previously Professor Henry Becquerel had accidentally noted that pitch-blend, containing uranium, had the ability to affect a covered photograph plate and discovered that this was due to certain rays, which were called Becquerel rays.

In following out a line of research to determine if larger amounts of these rays could be procured, pitch-blend was purified, and when pure uranium salts were obtained, it was found that they affected the photographic plate less than did the original pitch-blend. It was found that the residue gave off more rays, and the physicists set about to discover the compound or element giving off these additional rays. In quick succession polonium, actinium, and lastly radium were announced to the world. At the present time there are more than a hundred radioactive substances known. Aside from radium, thorium, used in the Welsbach mantle, is the best known of those substances.

Radium has an atomic weight of 225, and during the summer of 1910 has been isolated by Madame Curie, having previous to that time been secured only as a compound of bromide, chloride, nitrate, acetate and sulphate.

The pure radium, as described by Madame Curie, is a white metal which oxidizes in water, burns paper, turns black on exposure to air and has the property of adhering firmly to iron. Metallic radium is, at this writing, not obtainable commercially, and *compounds of radium* are, therefore, the only ones procurable at present, the compound in common use being radium bromide. This compound looks like a yellowish powder, and when mixed with barium, its chief impurity, it assumes a grayish color.

Briefly, some of the physical properties of radium compounds are: They give off heat, rendering bodies surrounding them of higher temperature than normal; they give off light; their rays are able to penetrate opaque substances; they give off a gas, or emanation. A number of rays given off from these substances have been described, chief of which have been named alpha, beta and gamma. Radium compounds also have the property of rendering other substances radio-active if brought in contact with them. This is a very important property which has opened up a new world in physics and chemistry.

Radium is found throughout the earth in minute quantities, and it is believed that it is the presence of radium in the earth's crust that keeps up the heat of the earth. Radium is found in appreciable deposits in Bohemia, in Cornwall, England; in Portugal and in Colorado and California. It is chiefly obtained from the mineral pitch-blend, but is also found in other earths, such as carnotites.

It is the radium found about certain springs which renders the waters of these springs radioactive and which has given them therapeutic reputation. The waters of Gastein, Austria, and Kissingen, Germany, are particularly radio-active. The therapeutic results of many springs, containing as they do but *few or no mineral ingredients*, can only be explained by the fact that minute amounts of radium contained in the water, or the emanations of the radium contained

in the water, produce the results attributed to them. What the Germans have called "Brunnengeist," or "spirit of the spring," we now suspect to be the emanations given off from radioactive compounds, and it explains why such waters, when bottled, lose their reputed value after a period of time.

The rays given off from radium are due to the constant *disintegration* of this compound, the splitting up of atoms, *liberating electrons* or corpuscles which produce various manifestations. These rays when penetrating other substances, such as lead, gold, silver and aluminum, again set up other vibrations, the study of which in the near future will doubtless again enhance our therapeutic field. We are at present experimenting with gold leaf as a filter for both X-rays and radium rays, and have noted some new effects not produced before. Among the rays emitted are: (1) The alpha rays comprising about 90 per cent. of the rays given off. They are corpuscles which carry a *positive charge*, and have but slight penetration, being stopped by a sheet of paper. When radium is preserved in tubes of glass or mica, the alpha rays are cut off entirely. (2) The beta rays consist of corpuscles or electrons which have deeper penetration, carry a *negative charge* and are similar to the cathode rays of the Crooke's tube. These beta rays again differ in character, some having deeper penetrating power than others. (3) The transverse vibrations of these rays produce a force called the gamma ray, which carries *no charge*; it has deep penetrating power, is capable of taking radiographs of opaque substances, and is believed to be identical with the X-ray. These constitute less than 2 per cent. of the output.

The emanation, or gas, is a constant factor and eventually changes into the element helium. The emission of this gas lowers the atomic weight of radium, so that radium through a number of steps is believed to be gradually changed into the element, lead. These emanations in large amounts are noted about the sun, and it is believed that the heat of the sun is due to enormous deposits of radium contained in that body.

The volume or amount of rays given off from a specimen of radium depends upon its quantity and activity. The unit of radio-activity is based upon pure uranium oxide, and depending upon the purity of a radium compound, it is labeled at 10,000, 25,000, 250,000, and lastly 2,000,000 activity, each strength being relatively more active in rays than the same quantity of uranium oxide. It is well to emphasize the fact that impure preparations, such as the low activities of 2,000 and 25,000, contain, besides radium, many other elements such as barium, bismuth, lead, copper, iron, lithium, etc., and must never be prescribed internally in place of the *pure radium bromide*, as these mixtures are not as yet proven. At a recent convention it was proposed to adopt a new standard of activity, taking twenty milligrams of pure radium bromide in a glass tube as a standard, and calling the output in rays after one hour, "one curie," in imitation of electrical standards-volt, ampere. etc., Thus, a tube of 200,000 activity of radium, twenty milligrams, gives off in one hour a dosage of one-tenth curie. Radium can be tested by a photographic plate, more rapidly by the electroscope and its approximate quantity and activity determined as compared with standard tests.

Radium was originally preserved in glass and aluminum tubes, but realizing that many of its rays were cut off by glass, Mr. Hugo Lieber, in 1902, produced a film, or varnish, made of a solution of radium, and coated this varnish upon pieces of celluloid, bougies and metal disks, for treatment of the skin and orifices of the body. The writer claims the credit of being the first to apply these coatings or films, at the clinics of Flower Hospital in 1902, and at the First International Congress of Radiology held at Liege, Belgium, in September, 1905, he gave a preliminary report of this original work with the Lieber coatings. Since that time (1905) Drs. Wickham and De Grais have assiduously worked along these lines, and their work has received recognition, not only abroad, but Dr. Wickham was recently heard before the New York Academy of Medicine, where his work was pronounced as "epoch making." These same physicians have published a splendid text-book on the subject of radium therapy, but they do

not mention the priority of the speaker and of Flower Hospital in this work.

Besides films, radio-active solutions can be mixed with clay, mud and other poultices, and radium can also be dissolved in water and gelatin. Willow charcoal absorbs the emanations from radium and holds them for a number of days, so that the rays can be administered by mouth in that way also.

Since 1906 the writer has utilized a mixture of radium gelatin, also devised by Lieber, as a local application, saturated in gauze and tampons; and in 1908 the writer, in conjunction with Dr. Helmuth, first essayed the use of radium solutions as an injection. Dr. E. Stillman Bailey, of Chicago, has utilized mixtures of pitch-blend and thorium of very low radio-activity for numerous conditions, and is still working at the therapeutics of these mild preparations. His work cannot properly be called radium therapy, but rather the therapeutics of radio-active minerals, which, in themselves, deserve separate study.

Having thus rapidly gone over some of the history and the physics of radium, which demonstrate that it possesses a most remarkable array of properties, the study of which has revolutionized some of the principles of chemistry and physics, and promises to supplement many discoveries in biology and medicine, we will rapidly mention its external application in *material doses* and then proceed with the more recent work of the proving of radium along homoeopathic lines. In the latter, the action of potentized or dilute remedies can now be readily explained on the electron theory, as exemplified in radium.

The physiological and pathological action of radium upon the tissues was discovered by chance. Professor Curie placed a small tube of radium in his vest pocket and traveled from Paris to London, delivered a lecture there, and carried his tube in the same pocket back to Paris. On his return home, when undressing, he noted that in the same region where the radium had been placed a marked dermatitis had been produced, which caused a great deal of discomfort and itching, and which required a number of months for healing. This action led him to donate a quantity of this substance to the clinics of Paris, and it is from these clinics that many of the reports of radium therapeutics have emanated. The action of radium upon the skin is to produce erythema and dermatitis, with accompanying itching, burning, swelling and redness, and, if applied for an excessive period, necrosis and ulceration supervene. Paradoxically, as it may seem to some, it is used therapeutically for the relief of similar conditions when applied for short periods of time.

On the nervous system, radium, if applied for a short period, has a stimulating effect; if applied for a number of hours it produces paralysis. The length of time of application, therefore, is one of the most important points for study, for opposite effects are produced by short and long exposures.

The quantity of radium employed also has a bearing on the dosage, for a larger amount of radium will give off a relatively larger number of rays, and a larger amount, therefore, will require a shorter exposure.

The action of radium has been tested on seeds, on amoeba, on animals, and on the human body, and all investigators agree that *small doses stimulate* while *large doses inhibit cellular activity*. The study of radium on human tissues has been carefully investigated, and it is found that where an overpowering dose is given, within the area treated the nuclei of cells are destroyed, vacuoles are produced, and following this treatment, reparative scar tissue is formed and *fibrosis supervenes*. *It is this principle that we attempt to secure in the treatment of malignant growths*; and failure in the treatment of malignant growths with radium can be attributed to the fact that it was impossible to place the tissues under the influence of these overpowering rays and secure Nature's method of healing - the formation of fibrous tissue. In giving moderate doses of radium, the inflammatory action takes place within two to four days, and

fibrosis supervenes within two to four weeks. If an overpowering dose is given necrosis supervenes and healing of the necrosed areas in many cases requires three or six months for regeneration.

The application in practice of this remarkable agent has been confined largely to lesions of the skin and to lesions which heretofore have not been successfully treated in medicine. Keloids, naevi, pigmented moles, port wine marks, naevus flammeus, urethral caruncle, epithelioma, lupus vulgaris, papilloma, fibroma, and lastly, sarcoma and carcinoma. Its use in the latter diseases has been confined almost entirely to inoperable cases, or to cases where operation was not deemed advisable; and in spite of failures in some cases, the results obtained certainly warrant the adoption of radium therapy in these conditions, at least until a superior method has been found. Its use in the treatment of recurrent malignant conditions has also been gratifying, and has, in the writer's practice, supplemented the use of the X-ray.

To give a review of all the cases treated in the past nine years would fill a book. We will, therefore, confine ourselves to stating that we have treated a number of cases of epithelioma which, when superficial, always responded to treatment; when deep, responded to the treatment less frequently, owing no doubt to the lack of dosage. Naevi of all kinds have responded in nearly all cases where the patients would not give up the treatment after a short time. Keloids, radium acts specifically upon, changing the red raised growths into a white fiat scar.

Of urethral caruncle six cases have been treated, several of which were assumed to be possibly malignant by the physicians who referred them, and all of these cases were apparently cured. Three cases of which I have been able to keep a record are well after, respectively, seven, five and four years.

Of inoperable cancer, a large number of cases were treated, and but a few cases showed permanent results. Sufficient has been learned, however, to advocate its use in all inoperable and recurrent cases of malignant growths, for the favorable results obtained in some cases must be ascribed to some definite selective action of radium and not to chance.

During the whole period, while employing radium for its *gross effect*, the writer has observed and noted symptoms and tissue changes produced by this agent with the object of ultimately publishing these notes for homoeopathic use.

In 1908 Dr. J. H. Clarke, of London, published a monograph on "Radium as an Internal Remedy," and to him belongs the credit of first publishing provings of radium bromide and giving a few indications for its homoeopathic application. Dr. Clarke, however, admits that his proving "is slight and imperfect," and examination of the data shows that the provings were not conducted with the complete laboratory and physical tests which are now demanded by the scientific world. Dr. Clarke's provings were confined to the 30th c. potency alone, which precludes the many symptoms evoked by the more material doses, 6x or 12x.

Another criticism of the provings of Dr. Clarke is the incorporation in his data of the results noted by Dr. Burleigh Parkhurst of water rendered radio-active. Radio-active water is not radium bromide, but it merely contains the emanations of the tube and the beta and gamma rays and the minerals contained in the water are rendered radio-active by these agents. Not an atom of radium bromide can be found in this radio-active water, for it was made by suspending a glass tube in the water and permitting the rays to permeate the fluid. It would be just as logical to assume that sodium chloride triturated would produce the same symptoms as chlorine gas dissolved in water, and equally scientific to lump the two sets of symptoms together, as to place the symptoms of triturated radium bromide and the symptoms of radio-active water in the same schema. Radio-active water deserves a separate proving, as does pitch-blend, thorium, and radium barium sulphate of low activity. The writer trusts that Dr. Clarke will receive these criticisms in the spirit of scientific endeavor in which they are given.

In this connection the writer desires to speak of the work of Dr. Von der Goltz, of New York, who, in the "*Homoeopathic Recorder*," February, 1910, and December, 1910, writes in an enthusiastic strain of the great potentialities of radium as an internal remedy. Dr. Von der Goltz's clinical reports are claimed to be largely based on Dr. J. H. Clarke's provings of *Radium bromide*, nevertheless, the doctor employs a low activity of radium chloride in his work, so that the scientific accuracy of his deductions will be open to question. It must be reiterated that *low activities of radium* contain, besides the binary compounds, minute amounts of barium, bismuth, iron, copper, lead, and lithium, and can never be given homoeopathically for symptoms produced by pure radium bromide. These low activities of radium should be proven separately, if they are to be employed according to the law of similars. Dr. Von der Goltz would certainly not use *graphites* for *ferrum phos*, merely because *graphites* contain traces of iron, neither should he employ a mixture of many elements containing traces of radium chloride for the symptoms of radium bromide.

Having employed and investigated radium for over ten years, the writer determined to undertake as complete a proving of radium bromide as possible, and secured the co-operation of Drs. Copeland, Crump, Sayre and Stearns in this work.

The proving was made from the purest obtainable *radium bromide* of an activity estimated at 1,800,000 to 2,000,000, the original trituration being made personally by Mr. E. W. Runyon, of the Boericke & Runyon Homoeopathic Pharmacy; of New York, in the presence of Professor Pegram, of Columbia University, who weighed out a definite quantity of the radium.

The drug is preserved in lead-foil covered glass bottles in order to keep the emanations and rays confined as much as possible and also to prevent other drugs from becoming radio-active.

The usual process of proving on the healthy was gone through. The provers noted their daily symptoms for one week; family history and physical examination, including urinary and blood tests were first made, and, after definite periods of taking the drug, these same examinations were repeated. All the provings were made in the 30x, 12x and 6x potencies of triturated radium bromide of 1,800,000 to 2,000,000 activity, the purest commercial radium obtainable.

It is interesting to note that the person who made the triturations developed a number of symptoms (by inhalation of the drug presumably), and these have been incorporated in the proving.

The 30x potency was first administered, and while some provers developed many symptoms from this potency, *the majority did not*, so that the 12x, and, later on, the 6x were employed. This latter potency produced such marked symptoms in several cases that the writer would earnestly warn against employing it for therapeutic purposes. The 12x, as a *low potency*, and preferably the 30x, should be used for curative purposes. In the writer's cases in prescribing radium as a remedy in disease, powders of the 12x and 30x were given, with instructions to take the powders morning and night, and to repeat daily until improvement set in. In several cases of lumbago one dose sufficed for a cure. In cases of chronic eczema several weeks elapsed before improvement was noted. In a chronic case of arthritis of the shoulder one month was required for permanent relief.

Radium bromide will find a curative sphere in many cases of skin lesions, such as eczema, pruritus, psoriasis (particularly verified by Dr. J. H. Clarke), new growths, also in glandular swellings and hyperplasia, nephritis, and infectious diseases. Its action on the mentality and nervous system shows many spheres of usefulness. Arterio-sclerosis should also be benefited, as massive doses produce atheroma. All provers showed lowered blood pressure while taking the drug, and for some time after.

It should prove to be one of the most useful remedies in gouty and rheumatic conditions, for

all the provers, without exception, developed symptoms of muscle and joint pain, with the modality of worse on motion - the pain gradually wearing off. Most provers developed an air-hunger; the symptoms were better in the open air. Strangely enough, while these provings were going on Professor William His, of Berlin, published an article on the "Use of Radium in Gout and Rheumatism," which has been quoted by all the prominent medical journals and which corroborates the homoeopathic principle of *similia* in every respect.

Professor His claims to have treated 200 cases of gout and chronic rheumatism with radium emanations (inhalations of the gas), radium injections (into joints and muscles), and the drinking of radium water; he cites cured cases of polyarthritis and chronic myalgias which are astonishing. He insists that the earlier the case is taken the better the result, and *he does not claim* to be able to influence cases *where long standing osseous and cartilaginous changes are present*. Prof. His explains that radium has the power to change uric acid and urates into carbonic acid and ammonia, in which states these products are readily eliminated by the emunctories. His' reported cures are so remarkable that the radium treatment for gout and rheumatism will no doubt have much vogue and will then fall under the blight of routinism, and empirically applied will fail in many instances. With clean-cut homoeopathic indications for the administration of radium bromide in gouty and rheumatic conditions, it will be different, and the verifications of the writer in cases of arthritis, lumbago and neuralgias prove the truth of the homoeopathic principle in a most convincing way.

Aside from symptoms produced upon the eyes, the organs of special sense appear not to have been influenced much in this proving. Symptoms upon the ear and nose are almost negative. Upon the respiratory tract the symptoms of cough were very marked (occurring late in the proving), and their application in tuberculosis, whooping cough, bronchitis and pneumonia is invited.

The alimentary tract presents a large number of symptoms; *flatulence* was marked, and alternating constipation and loose movements were produced. Two provers developed pain over McBurney's point.

Upon the urinary tract increased elimination of solids, particularly of chlorides (improvement of auto-toxemia), is noted. Five provers developed albuminuria, and one of these had granular and hyaline casts, indicating marked renal irritation.

The female sexual organs showed delayed and irregular menstruation, with well-defined symptoms of backache.

GENERAL SYMPTOMS.

Had severe aching pain all over the body; was very restless, kept moving about in bed, which seemed to relieve the aching pain. 6x. Felt hot all over the body so that had to take off the bed covers, 6x.

Hardly able to move about; unable to work properly. Tired feeling all over the body; walk heavily, loss of springiness in walk. W. H. D. 6x.

General lassitude for several days with periodical sharp pains in joints > by continual motion > open air. W. H. D. 6x.

Internal chilliness all over the body > from warm wraps. Miss H. 12x.

Itching all over the body at night. Miss. W. 12x.

Pains in all limbs, not better from moving about, but they wear off; recur on and off during the day, pains better from a hot bath. Miss W. 12x.

Feels exhausted. wants to take off clothes and lie down and rest. Miss H. 12x.

One week after taking a single dose, of 30x felt much better in spirits and health. McD. 30x.

Feeling tired and drowsy; relieved in open air. M. 30x.

Feeling weak all day. M. 12x.

Feeling weak and have vertigo. (after colic and diarrhoea). M. 12x.

Feel weak all over. soreness of both shoulders. S. 12x.

Felt tired all day. Mrs. F. 30x.

Arose feeling very stiff and lame. Mrs. F. 30x.

Felt tired in afternoon. Miss F. 12x.

Sharp sticking pains over right eyeball, in the arch of right foot. in right knee and under left shoulder blade. Mrs. F. 12x.

Felt very well all day. Mrs. F. 12x.

Burning sensation and itching all over the body. Miss H. 12x.

All symptoms come and go; are better in open air and from walking. Miss H. 12x.

Entire body feels as if afire; with sharpest kind of needle-pricks or electric shocks all over body; also itching all over. Miss H. 12x.

MIND.

Apprehensive, felt as if something was going to happen to her. Miss H. 12x.

Restless during night. 6x.

Depression of spirits, feels blue, hardly able to move about and do ordinary tasks about the house. 6x.

Dreams of passing urine, awoke with an erection and on going to bathroom had difficulty in voiding; had to wait three minutes until urine came. 6x.

Felt discouraged and blue to-day for no particular reason. Miss W. 12x.

Several times felt afraid, as if something was going to happen and did not want to be left alone. Miss W. 12x.

Felt depressed all day for no apparent reason; felt as if something was going to happen. Miss W. 6x.

Fear of being alone in the dark; want someone to be near me. Miss W. 6x.

Bad dreams and restless all night. have felt low spirited all day. Wish for things and have great desire to be with people. Miss W. 6x.

Have been in good spirits all day and feel as if I could do and undertake anything. Miss W. 6x.

Irritable and easily vexed. M. 12x.

Irritable and cross for two days; the least thing irritates. M. 12x.

Nervous and cranky during evening. F. 30x.

Feeling of touchiness; easy to anger. F. 30x.

Inclined to be irritable and touchy; little things annoy. F. 30x.

Tired and irritable all day. F. 12x.

Mind cloudy and not able to think clearly or reason clearly; felt stupid, associated with dull frontal headache all day. F. 12x.

HEAD.

Developed succession of little pimples on forehead and chest; they were raised, red, and when punctured exuded serum, blood and a small amount of pus. Ew. 6x.

Vertigo, dizzy feeling, with pain in back of the head; improved after sleep. Mrs. D. 6x.

Dull occipital and vertex headache, accompanying severe lumbar aching. Mrs. D. 6x.

Excessive vertigo when arising. When on feet tendency to fall to the left; had to support self by resting left arm against wall and get to bathroom this way. Vertigo continued when sitting. > lying down, < when getting up again. W. H. D. 6x.

Vertigo slightly > after a warm bath with cold ablution. W. H. D. 6x. One hour later vertigo still persisted, although gradually diminishing.

Vertigo lasted all morning. > at I P. M.; markedly improving on going into the air; also improved at noontime after eating. W. H. D. 6x.

Fullness of head; occipital dull headache which wore off. W. H. D. 6x.

Dull occipital headache > pressure. W. H. D. 6x.

Dull occipital headache, > in open air. W. H. D. 6x.

Vertigo with tendency to fall to the left side, > in open air. W. H. D. 6x.

Terrific pain in head over right eye, spreading back over to occiput. continued to have it all next morning. McD. 12x.

Occipital headache, dull in character. McD. 12x.

Vertigo upon rising or when reading steadily. McD. 12x.

Frontal headache extremely dull in character. McD. 12x.

Intense sharp headache commencing over the left eye and spreading over the head; > from heat; < cold and pressure. M. 12x.

Intense sharp headache, which began over right eye and extended to frontal region: relieved by cold application and rubbing. M. 12x.

Sharp headache over right eye. extending to vertex, > in open air. M. 12x.

Dull headache, mostly in occipital region. S. 12x.

At times sensation as if numbness or compression of bones of the head. S. 12x.

Throbbing pain over right temple, quite severe, lasts for a short time. S. 12x.

Head felt heavy all day. Headache began in occiput. Became sharp over right eye; a throbbing, pulsating headache, < motion, < lying down, < by warm air, > sitting down with head back, > cold air, > pressure over forehead over right eye. Was unable to go to bed until 3 A. M.; sat up and slept in Morris chair. Headache ceased at 5 A. M. F. 12x.

Lightness of head associated with nausea and sinking sensation in pit of stomach. Whole head seemed to pulsate outward: skull felt too small. F. 12x.

Headache returned next day on stooping over. F. 12x.

Dull ache in forehead all day with clouded mind; not able to think and reason clearly; felt stupid. F. 12x.

Severe frontal headache all day, > from cold, >; open air. F. 12x.

Dull frontal headache all day; head felt light, somewhat relieved by squeezing, by pressure. Mrs. F. 30x.

Sharp sticking pain in right side of head. Mrs. F. 12x.

Sharp, sticking pain in left temple. Mrs. F. 12x.

Dizziness with palpitation of the heart, in afternoon. Mrs. F. 12x.

Several other instances of vertigo, but of short duration. Mrs. F. 12x.

Severe sticking pains in left temporal region on going to bed. Mrs. F. 12x.

Head feels heavy; dull ache in head.

Vertigo with dull pressure on top of head, also dull frontal headache at the same time. These symptoms wear off, but return and are ameliorated by walking and in the open air. Miss H. 12x.

EYES AND ORBIT.

Shooting pain over left eye. (Ernesty.)

Sharp pain in left eye; darting pain in left eyeball, as if small bodies were moving in the eye. W. H. D. 6x.

Swelling of tissues of left orbit with slight itching, > in open air. W. H. D. 6x.

Eyes have sticky feeling and are reddened. Eyeballs slightly bloodshot. McD. 12x. Sticky feeling in eyes continued for nine days. Terrific pain in head over right eye, spreading back to occiput. Continued to have it all next morning. McD. 12x.

Eyes after three weeks still have sticky feeling and as if sand was in them. McD. 12x.

Dull ache in top of eye. < pressure. McD. 12x.

When reading for a while the letters would dance and get blurred. Aches in both eyes. McD. 12x.

Headache commencing over left eye and spreading over the head; < cold and pressure, > heat. M. 12x.

Eyes feel warm and heavy; hard to keep them open. M. 12x.

Eyes examined by specialist and said to be very much congested. The lids feel heavy and drowsy. M. 12x. Quite a large amount of exudate from right eye, which runs down on the nose and forms yellow crusts. Had to open right eye with fingers as lid was not strong enough. M. 12x.

Feeling as if a piece of cotton was in eyes, > by rubbing. M. 12x.

Soreness of both eyes, left worse than right. S. 6x.

Margin of lids of eyes inflamed and burning. S. 6x.

Soreness of eyes, left more severe than right, with more burning and soreness in left; they become watery. S. 6x.

Soreness of eyes wore off toward noon, but appeared again in the afternoon. S. 6x.

Sharp pain over left eye, after climbing stairs. F. 30x.

Trembling or vibrating pain over left eye; lasted two minutes. F. 30x.

Eyes ache and head feels heavy all day until 4. P. M.

Headache begins in occiput, runs over and becomes sharp over right eye; a throbbing, pulsating headache, < by motion, < by lying down and by warm air, > by sitting down with head back, by cold air and by pressure over forehead above right eye; was unable to go to bed until 3 A. M.; slept in Morris chair; headache ceased at 5 A. M. F. 12x.

Both eyes ache along edge of lids. F. 12x.

Edges of lids slightly reddened and eyes sensitive to light. Photophobia. F. 12x.

Sharp sticking pains over right eyeball. Mrs. F. 12x.

Burning sensation in both eyes; this burning sensation comes and goes. Miss H. 12x.

Stinging sensation in both eyes, > in open air. Miss H. 12x.

EAR.

Tickling in ears, very severe at night. Miss W. 6x.

Sound in ears of rushing water (associated with rapid heart action, following vivid dreams). F. 12x.

Sharp, sticking pain just over right ear. Mrs. F. 30x.

NOSE.

Itching and dryness of the mucous membranes of both nasal cavities, > in open air. W. H. D. 6x.

Picking of nose due to formation of hard crusts or mucous particles. W. H. D. 6x.

Itching of the nose. Miss H. 12x.

FACE.

Flushed face at 4-5 P. M. S. 12x.

Severe aching pain at angle of right lower jaw. Mrs. F. 12x.

Formation of small papule in center of left cheek; same dried off and recurred a number of times. Heavy crust formed over the area when papule was scratched off; this again returned several times. W. H. D. 6x.

MOUTH - TONGUE.

Teeth painful and feel elongated. Miss H. 12x.

Gumboil on right lower jaw back of molar teeth-could not talk owing to swelling and soreness. Miss H. 12x.

Twitching and burning sensation in lips. (Ernesty.)

Lower lip drawn and stiff, feels as if swelling. (E.)

Pricking sensation on end of tongue, like needles sticking in it. Lasted about five hours. (Ernesty.)

Slight metallic taste in mouth. 6x. Mrs. W. H. D.

Metallic taste in mouth. W. H. D. 6x.

Tickling in roof of mouth. Miss W. 12x.

Peculiar metallic taste in mouth. Miss W. 12x.

Peculiar metallic taste, between sour and bitter, a little more to the sour taste than bitter. It warmed the oesophagus on the way down and left a warming sensation in the oesophagus and stomach noticeable for half an hour after taking it. McD. 12x.

Taste of chalk in mouth after taking drug with increased salivation. M. 12x.

Taste of drug a little bitter and oily. S. 12x.

Taste of drug metallic on swallowing; five minutes later feeling of warmth in stomach; similar feeling as after taking whiskey. S. 12x.

Saliva runs into mouth. Miss H. 12x.

Parched, dry sensation in roof of mouth, > from drinking small amounts of cold water, but parched and dry sensation returns. Miss H. 12x. Dryness of mouth, breath seems hot. Miss H. 12x.

Wanted cold drinks to quench parched condition of throat. Miss H. 12x.

This parched and dry condition in mouth and throat was a leading symptom, in most patients who received radium injections; sipping of cold water would temporarily relieve, so would the administration of *Nux moschata*. Tongue bluish-white and thick-felt swollen; speech seemed difficult and heavy. Miss H. 12x.

STOMACH.

Feeling of emptiness in stomach - very intense. This symptom passed away in one hour. (Er-nesty.)

Pain in stomach after taking remedy (6x. Mrs. D.) These pains were griping in character and soon passed away.

Warm sensation in stomach; thirst for water during night. W. H. D. 6x.

Warm sensation in stomach. W. H. D. 6x.

Warming sensation in oesophagus and stomach, noticeable half an hour after taking medicine. McD. 12x.

Felt if I took a drug that I would vomit, but took it and had no effect. McD. 12x.

No desire for sweets; rather an aversion. McD. 12x.

Aversion for sweets; especially ice-cream, of which she is ordinarily very fond - this symptom developed during cough. Mrs. D. 6x.

Colicky pains in stomach. McD. 12x.

Belching of quantities of gas during day. McD. 12x.

Nausea about 5 P. M., feeling as if wanted to vomit, but cannot. M. 12x.

Nauseating feeling in abdomen and feels as it wanted to vomit before meals; relieved by eating. M. 12x. Loss of appetite all day.

Feeling of emptiness about an hour before meal-time and relieved after eating; cannot eat much, however: appetite seems to be gone. M. 12x.

Great hunger about an hour before meals, but takes very little to satisfy same. M. 12x.

Warm feeling of oesophagus and stomach. S. 12x.

Lack of appetite; no desire for any food, not hungry. S. 6x.

Warm, empty feeling in stomach, > after eating. S. 6x.

During afternoon and evening following luncheon and dinner had a great number of eructations of gas; no taste; flatus in the evening. F. 30x.

Food slow of digestion, although appetite good. F. 12x.

Nausea and sinking sensation in pit of stomach, < walking, also lightness of head when it ached on moving about, while head seemed to pulsate outward; skull felt too small. F. 12x.

Much pain and distress in stomach with great amount of belching gas; no taste, the belching relieved the distress, followed by eructations and relief. F. 12x.

Loss of appetite, accompanying much colic in abdomen with many movements of bowels, and mal-odorous flatus. Miss H. 12x.

Nausea; > after eating, but have no appetite. H. 12x.

Belching of gas at frequent intervals. Miss H. 12x.

Usual food is not relished; sour things taste good. Miss H. 12x.

ABDOMEN.

Severe aching pains in abdomen over pubes when flow came on (an unusual occurrence, flow always painless heretofore). The pain lasted during the night, was aching in character. 6x.

Slight colicky pains in abdomen and pass foul flatus. McD. 12x.

Had very tender pain over McBurney's point. McD. 12x.

Pain in abdomen after taking drug. relieved by bending forward and after defecation; stools were hard and brown. M. 30x.

Violent cramps at 11 P. M., relieved by bending double. M. 12x.

Feeling as if full of gas; rumbling in abdomen. M. 12x.

Nauseated feeling in abdomen as if about to vomit before meals; relieved by eating. M. 12x.

Awoke at 4 A. M. with colicky pains in abdomen and a stitching pain in rectum. Defecated at this time and stool was watery and very dark. After defecation pain in abdomen disappeared. M. 12x.

Awoke again at 7 A. M. with same symptoms and had another defecation and felt improved; had four more stools from 7:30 to 10:30 A. M., but they were scanty, very yellowish and watery. M. 12x.

Cramping pain in abdomen while eating, relieved by pressure and defecation; latter was soft and yellow with very bad odor. M. 12x.

Notice quite some flatulence. S. 12x.

Short time after awakening. while still in bed, cutting pains in intestines; very sensitive to pressure. S. 12x.

Sharp, sudden pains at McBurney's point, also at location of sigmoid flexure above crest of ilium, left side; these attacks occurred six or seven times during the week; the pains came quickly, like shocks, and passed off quickly. S. 6x.

Much flatus all afternoon; not much odor. F. 30x.

Much flatus during evening. F. 30x.

Much flatus during afternoon and evening; not much odor. F. 12x.

Two red macules, size $\frac{3}{4}$ inch on right and left lower abdomen; slightly itching. F. 12x.

Hot flatulence following diarrhoea with much urging. F. 12x.

Flatulence during afternoon and evening for two-three days after taking drug. F. 30x.

Severe intestinal cramps in evening, due to collection of gas. Mrs. F. 30x.

Generally distressed abdomen during evening; had the nature of cramps but less pronounced. Mrs. F. 30x.

Severe sacral pain with great flatulence, 4-5 A. M., > when bowels were emptied. Mrs. F. 30x.

Great flatulence in morning and pain in back continues, but not quite so severe. Mrs. F. 30x.

Great flatulence all day and before rising in morning. Mrs. F. 12x.

Whole abdomen is colicky, > from heat, > from pressure, the colic is accompanied by internal chilliness. Miss H. 12x.

Eight loose, partly formed, stools, light brown in color; uncertain feeling about the navel, feels she must defecate, but finds nothing but flatus. This symptom recurred several times. Miss H. 12x.

Colic and gripes in abdomen, particularly about the navel, > after defecation, > after passing gas. Much flatulence and belching of gas. Miss H. 12x.

RECTUM AND STOOL.

Constipation for two days. W. H. D. 6x.

Difficulty in defecation even after the use of an enema. W. H. D. 6x.

Stool unusually long and large. W. H. D. 6x.

Passed large quantities of foul flatus. McD. 30x.

Stools for a day or two after taking drug were little softer than usual. McD. 30x.

Defecation at noon (instead of evening, as usual) after having slight colicky pains. McD. 12x.

Having been constipated for last four days. No desire for stool excepting twice, then passed three little black marbles of feces; at noon had a small diarrhoeic stool. McD. 12x.

Soft, yellow stool with much flatulence. M. 30x.

Alternating yellow soft stool with hard brown stool with foul flatulence. M. 30x.

Slight burning stool pointed at end like a cone. M. 30x.

Defecation in afternoon; stool came with a gush and was soft and dark with bad odor. M. 12x.

Awoke at 3:30 A. M. with colicky pains in abdomen, and a stitching pain in rectum. Defecated at this time and stool was watery and very dark. After defecation pain in abdomen disappeared. M. 12x.

Awoke again at 7 A. M. with same symptoms and had another defecation and felt improved. Had four more stools from 7:30 to 10:30, but they were scanty, very yellowish and watery. Rectum feels sore and as if prolapsed. M. 12x.

Had three more passages from the bowels since 10 o'clock; watery and dark in color. Anus still feels prolapsed. Had two more defecations of the same character before 3 o'clock. M. 12x.

Defecation at 1 A. M., soft, small stools of dark color; no odor. M. 12x.

Defecation with a great deal of urging. S. 12x.

Defecated at 12:30 (noon); stool resembles a cone of a pine tree. S. 12x.

8:30 A. M., very large stool, dark brown and very offensive. S. 12x.

8 P. M., diarrhoea following by hot flatulence with a great deal of urging. S. 12x.

No defecation and no desire for stool. S. 12x. (4 days.)

No desire for stool; forced a stool which was soft and clay-like. S. 12x.

One stool yellow-brown, also slate color - offensive odor. S. 6x.

Dry, hard stool, last part of stool softer. S. 6x.

Small formed stool with little desire for stool. F. 30x.

Two normal, brown stools during afternoon; in evening much foul flatus. F. 30x.

Not a free bowel movement in afternoon as usual. F. 30x.

Stools very hard, but normal in amount and time. F. 12x.

Constipation. for two days. F. 12x.

Desire for stool at usual time, but passed only a few round, hard balls. with no relief, two hours later had a more satisfying stool. F. 12x.

Desire for stool; but no stool; accompanied by much flatulence. F. 12x.

Dry, hard stool, with little inclination. F. 12x.

Dry. hard. scanty stools. F. 12x.

A free, satisfying stool. 9:30 A. M. F. 12x.

Scanty, dry stool, little desire; rectum feels dry. F. 12x.

No bowel movement until 2 P. M., when enema was employed. Mrs. F. 30x.

After one dose 12x had six stools from 8 P. M. to 2 P. M. next day; the stools gushed from the rectum and were formed (not diarrhoeic), the stools were mal-odorous and accompanied by foul, offensive flatus. Color yellow. Miss H. 12x.

Have been obliged to use enemas on and off for years and suffered from constipation; since undertaking the proving my bowels move regularly every morning. (Report of Miss W. one month after cessation of proving.)

Eight loose, partly formed stools, light brown in color; uncertain feeling about the navel; feels she must defecate, but finds nothing but flatus. This symptom recurred several times. Miss H. 12x.

Colic and gripes in abdomen, particularly about the navel, > after defecation, > after passing gas. Miss H. 12x.

URINARY TRACT.

Increased urination; latter has heavy sediment which sticks to vessel. Miss H. 12x.

Urine is usually scanty, since taking drug it is profuse. Miss H. 12x.

Difficulty in passing urine following erection, had to wait three minutes. 6x.

Dysuria during the day. Had to wait two minutes before urine came. 6x.

Urine slightly burning. 6x.

Obliged to wait one minute for urine to pass. 6x.

Urine thick and cloudy during voiding. W. H. D. 6x.
 Urine became clear after proving. W. H. D. 6x,
 Clay-water sediment, also brick dust. W. H. D. 6x.
 Heavy cloudy urine during proving. Mrs. D. 6x.
 Urine became clear after proving. Mrs. D. 6x.
 Brick-dust in large amounts in urine. Miss H. 12x.
 Urine cloudy. some deposit. M. 30x.
 More frequent desire to urinate. S. 12x.
 Urine darker and odor strongly urinous. F. 12x.
 Urine in morning dark in color and strong odor. F. 12x.
 Urine dark and has acid odor. Mrs. F. 30x.
 Urine radio-active by electroscopic test of provers. S., McD., M., D. 12x and 6x.
 Faint traces of albumin produced from taking drug in provers. Miss W., McD. and Mrs. F.
 Granular and hyaline casts. S.

Prover McD.

Before taking drug.

Volume, 1500 cc.
 Sp. gr., 1020.
 Albumin, negative.
 Sugar, negative.
 Solids, 66 gm.
 Acidity, 18.5 cc.
 Chlorides, 14.05 gm.
 Sulphates, normal.
 Phosphates, 1.5 gm.
 Nitrogen, 22.05 gm.
 Urea, 16.5 gm.
 Bile, negative.
 Indican, negative.
 Nucleo-albumin, negative.
 Microscopical, a few uric acid crystals.

Prover S.

Before taking drug.

Vol., 1560 cc.
 Color, light amber.
 Sp. gr., 1020.
 Albumin, negative.
 Sugar, negative.
 Sediment, slight.
 Solids, 68.64 grms.
 Acidity, 47 cc.
 Chlorides, 13.06 gm.
 Sulphates, normal.
 Phosphates, 3.12 gm.

Prover McD.

After taking drug.

2290 cc.
 Sp. gr., 1020.
 Albumin, very faint trace.
 Sugar, negative.
 Solids, 100.76 gm.
 Acidity, 24 cc.
 Chlorides, 20.61 gm.
 Sulphates, normal.
 Phosphates. 1.926 gm.
 Nitrogen, 8.5562 gm.
 Urea, 20.61 gm.
 Bile pigment, faint trace.
 Indican, negative.
 Nucleo-albumin, trace.
 Microscope, sodium urates scanty.

Prover S.

After taking drug.

Vol., 1365 cc.
 Color, amber.
 Sp. gr., 1024.
 Albumin, faint trace.
 Sugar, negative.
 Sediment, slight granular.
 Solids. 72.072 gm.
 Acidity, 47 cc.
 Chlorides, 14.196 gm.
 Sulphates, normal.
 Phosphates, 2.44345 gm.

Nitrogen, 13.80288 gm.
Albumin, negative.
Urea, 29.54 gm.
Bile, present.
Microscopic, negative.

*Prover M.
Before Proving.*

Volume, 1500 cc.
Color, amber.
Sp. gr., 1023.
Albumin, negative.
Sugar, negative.
Sediments, slight.
Solids, 75.9 gm.
Acidity, 65 cc.
Chlorides, 8.85 gm.
Sulphates, normal.
Phosphates, 5.67 gm.
Nitrogen, 16.059 gm.
Urea, .016 per cc., 24 gm.
Bile, present.
Indican, XXX large amount.
Acetone, negative.
Microscopic, epithelia. Prostate, ureter.

*Prover F.
Before Proving.*

Vol., 1200 cc.
Color. amber.
Sp. gr., 1022.
Albumin, negative.
Sediment, slight.
Solids, 58.08 gm.
Acidity, 60 cc.
Chlorides, 8.064 gm.
Sulphates, normal.
Phosphates, 2.0.16 gm.
Nitrogen, 10.2684 gm.
Albumin, negative.
Sugar, negative.
Urea, 14.4 G. M.
Bile, negative.
Indican, slight amount.
Acetone, negative.
Microscopic, negative.

Nitrogen, 18.291 gm.
Albumin, faint trace.
Urea, 19.11 gm.
Bile, present.
Microscopic, epithelia from kidney
and few hyaline granular casts,
mucus.

*Prover M.
After Taking Drug.*

Volume, 1800 cc.
Color, straw.
Sp. gr., 1023.
Albumin, negative.
Sugar, negative.
Sediment, floccular precipitate.
Solids, 91.08 gm.
Acidity, 25 cc.
Chlorides, 18 gm.
Sulphates, normal.
Phosphates, 2.286 gm.
Nitrogen, 17.0856 gm.
Urea, 234 gm.
Bile, pigment traces.
Indican, X diminished.
Acetone, faint trace.
Microscopic, ureteral epithelia,
mucus and spermatozoa.

*Prover F.
After taking drug.*

Vol., 1560 cc.
Color, straw.
Sp. gr., 1015.
Albumin, faint trace.
Sediment, slight granular.
Solids, 51.48 gm.
Acidity, 21 cc.
Chlorides, 13.416 gm.
Sulphates, normal.
Phosphates, 1.7472 gm.
Nitrogen, 9.95556 gm.
Albumin, faint trace.
Sugar, negative.
Urea, 10.92 gm.
Bile, negative.
Indican. slight amount.
Acetone, trace.
Microscopic, few middle bladder
epithelia and mucus.

Prover, Mrs. F.
Before Proving.

Vol., 960 cc.
Color, light amber.
Sp. gr., 1021.
Sediment, granular suspended.
Solids, 44.544 gm.
Acidity, 55 cc.
Chlorides, 11.16 gm.
Sulphates, normal.
Phosphates, 2.268 gm.
Nitrogen, 11.92462 gm.
Albumin, negative.
Sugar, negative.
Urea, 10.56 gm.
Bile, negative.
Indican, X, small amount.
Nucleo-albumin, negative.

Prover, Miss W.
Before Proving.

Vol., 1260 cc.
Color, straw.
Sp. gr., 1020.
Sediment, slight, suspended.
Solids, 55.44 gm.
Acidity, 35 cc.
Chlorides, 13.23 gm.
Sulphates, normal.
Phosphates, 2.016 gm.
Nitrogen, 15.35688 gm.
Albumin, negative.
Sugar, negative.
Urea, 12.6 gm.
Bile, negative.
Indican, negative.
Acetone, negative.
Nucleo-albumin, negative.

Prover, Mrs. D.

Before Proving. - Vol., 840 cc. Color, dark straw. Albumin, negative. Sugar, negative. Sp. gr., 1030. Solids, 58.80 grms. Urea, 2 per cent. +. Heavy clay water sediment. Microscopic, **large** uric acid crystals and concretions. Sodium urate in **excess**; amorphous form.
During Proving. - Vol., 1080. Color, dark straw. Albumin, negative. Sugar, negative. Sp. gr., 1024. Solids, 60.48. Urea, 2 per cent. +. Heavy clay water sediment. but less than before. Microscopic. uric acid plates and lozenges. Sodium urates. amorphous form.
One month after proving. - Vol., 1260 cc. Color, straw. Albumin, negative. Sugar, negative. Sp. gr., 1018. Solids, 50.92. Urea, 1.9 per cent. +. Microscopically, **uric acid** crystals in moderate numbers only. No sediment at present.

Prover, Mrs. F.

After taking drug one month.

Vol., 1380 cc.
Color, straw.
Sp. gr., 1018.
Sediment, slightly granular.
Solids, 54.648 gm.
Acidity, 25 cc.
Chlorides, 14.904 gm.
Sulphates, normal.
Phosphates, 1.38 gm.
Nitrogen, 7.76664 gm.
Albumin, faint trace.
Sugar, negative.
Urea, 6.9 gm.
Bile, negative.
Indican, small amount.
Nucleo-albumin, traces.

Prover, Miss W.

After taking drug.

Vol., 720 cc.
Color, light amber.
Sp. gr., 1031.
Sediment, very slight.
Solids, 49.104 gm.
Acidity, 50 cc.
Chlorides, 7.056 gm.
Sulphates, normal.
Phosphates, 1.674 gm.
Nitrogen, 12.7844 gm.
Albumin, minute trace.
Sugar, negative.
Urea, 12.96 gm.
Bile pigments, trace.
Indican, X, small amount.
Acetone, trace.
Nucleo-albumin, minute trace.

Prover D.

Before Proving. - Vol., 1080 cc. - Color, dark straw. Albumin. negative. Sugar, negative. Sp. gr. 1032. Solids, 80.64 grms. Urea, 2 per cent. +. Sediment, heavy clay water. Microscopically, sodium urates in excess. Uric acid plates and concretions in large numbers. Diagnosis. Lithemic urine.

During Proving. - Vol, 1260 cc. Color, dark straw. Albumin, negative. Sugar, negative. Sp. gr., 1024. Solids, 60.56 grms. Urea, 2 per cent. +. Sediment. brick dust - at bottom of chamber. Microscopically. sodium urates in excess. Uric acid lozenges and concretions.

One month after proving. - Vol. 1200 cc. Color, straw. Albumin, negative. Sugar, negative. Sp. gr., 1026. Solids, 70.80 grms. Urea. 2 per cent. +. Sediment, brick dust at bottom of bottle. Microscopically, **large uric acid** plates and lozenges. Uric acid concretions in abundance.

MALE SEXUAL ORGANS.

Sexual desire lessened or absent for one month. while taking drug. 6x. Three weeks after cessation of drug taking, sexual desires stronger than usual. 6x.

Had emission with sensuous dreams at night. 12x.

Had two nocturnal emissions. 12x.

Had emission in afternoon, while sleeping. Woke up feeling weak and drowsy.

Had. emission with dreams. 12x.

Slight pain in left spermatic cord when walking. 12x.

After taking dose of 6x two emissions with dreams during night. 6x.

Emission with dreams. 6x.

Two emissions with dreams. 6x.

Extra emissions with dreams. 6x.

Extra emissions; does not remember having had nocturnal emissions for years. 12x.

Increased sexual desire while taking drug.

Sexual desire became normal a few weeks after cessation of drug taking. 12x.

Previous to taking drug had slight phimosis which was aggravated during drug ingestion; head of penis itched and burned; by washing with warm water, phimosis has now improved and is better than before taking drug. 12x.

FEMALE SEXUAL ORGANS.

Aching pains in abdomen over pubes when flow came on (an unusual occurrence) the pains lasted during the night - a constant ache. Flow was copious first two days, then stopped gradually.

Free from headaches during flow-usually have same. Menses had stopped, came on again with slight discharge of blood and continued for a whole week; no pain - discharge was slight; bright red in color. 6x.

Slight vomiting with menstruation, but no nausea. 12x.

Cold sensation internally all day; chilliness with chattering of teeth until noon; late in the afternoon these symptoms ceased. 12x.

Flow very slight first and second day, usually it is profuse for first two or three days. 12x.

Menstrual flow diminished on third, almost ceased on fourth day, stopped on fifth day;

usually it is profuse the first two or three days and lasts five or six days. 12x.

Awakened at dawn with severe pains in abdomen, especially over the pubes, hips and limbs, was conscious of all my bones and could not stay in bed. Moving about did not relieve much. Menstrual flow came on after the usual warm bath in morning and felt better, although bones ached all day more or less. Flow profuse and bright red, with no headache, which is unusual (the prover usually has severe headache when flow comes on and is depressed). In good spirits all day. (Unusual on first day of flow.) 6x.

Second Day. - Flow profuse; excepting for itching of skin, especially on chest and arms, no symptoms to-day. 6x.

Flow lasted only three days this time. 6x.

Leucorrhoea seems curdy and cheesy. 30x.

Leucorrhoea white and scanty. 12x.

Menstruation delayed three days after usual time. 12x.

Began menstruating at noon; first low very light pink; no pain.

Flow during night very copious and dark red. Experienced some discomfort in lying down part of the night, but succeeded in sleeping after two o'clock. Upon arising and before had lots of bearing down pains in the back. Flow very abundant all day.

Felt unusually cold and chilly. 12x.

Next day felt well all day. Flow very scanty; dark red. 12x.

Practically no flow during night and very little during day.

Next day continued slow menstruation; dark color; no pain.

Next day, flow still continues. 12x.

Next day (6th day), no symptoms. 12x.

Sore muscles over right breast, sore to touch; relieved by hard rubbing; nodules plainly felt by rubbing. 12x.

Menstrual period again delayed three days. Flow very heavy during first two days; then amount dropped to less than normal and continued to flow scantily for two days longer than normal with periods of complete cessation for some hours. 12x (one month after taking drug).

RESPIRATORY ORGANS.

Eleven days after taking drug (6x) had sensation of sore throat (no tonsillitis discovered) - this stopped in twenty-four hours. Then a dry, spasmodic cough developed. Tickling in larynx worse lying down, worse after going to bed at night, could not stop coughing after cough started. Could not suppress it; somewhat better in open air. Tickling in suprasternal fossa very pronounced, with cough.

Aversion to sweets during cough, especially ice-cream, of which ordinarily very fond. After three nights of this cough same was controlled by Rhus tox. 12x. Mrs. D. 6x.

Dry, spasmodic cough occasionally during the day, but of short duration. Mrs. D. 6x.

Tickling, irritating sensation in throat, with constant desire to expectorate and clear the throat. Little strings of mucus, hard to raise, < smoking, > eating. McD. 12x.

Dry, spasmodic cough, < smoking, < indoors. > eating, > out of doors. McD. 12x.

Throat feels dry and raw, relieved by swallowing and drinking cold water. M. 12x.

Pain in left thoracic region, sharp pain which comes and goes; stays a minute or two, then goes away for a minute, then comes back. M. 12x.

Tickling in throat which feels very dry, > after drinking cold water. Throat feels sore when swallowing, like a stitch. M. 12x.

Throat still sore on swallowing, like a stitch. M. 12x.

Constricted feeling of throat. Miss H. 12x.

Tickling in throat with sharp cough. M. 12x.

Throat feels very raw. Expectoration of white froth; better in the open air. M. 12x.

Throat feels sore with tickling in throat and hacking cough and expectoration of white mucus. Better in the open air. M. 12x. Very sore throat on right side. M. 12x.

Slight tickling in throat with hacking cough with frothy expectoration. M. 12x.

Feeling of lump in throat and constriction. M. 12x.

Throat still sore. M. 12x.

Throat still sore on swallowing. Chest still feels constricted.

Coughing in morning with a whitish discharge; sometimes it is thick and tenacious. M. 12x.

Hacking cough with whitish expectoration. M. 12x.

Tickling in trachea, as if something had dropped into it causing a dry, hacking cough, at end of cough certain raised small amount of whitish or yellowish mucus. The cough was better in the open air, worse in the house. S. 6x.

Dry throat, feels congested, though no appearance of a cold. F. 30x.

Throat dry and congested, more so on right side, no soreness, feeling as if smoked too much. F. 30x.

Stopped smoking, but the dryness and congested feeling continued. F. 30x.

Feeling in throat as if drinking or eating food highly seasoned with red pepper, a warm, slightly smarting feeling on right side. F. 30x. Throat feels hot and peppery. F. 12x.

Occasional dry paroxysms of coughing with sensation as if dust had reached the larynx or bronchi; relieved by coughing. F. 12x.

Sore throat at bedtime. right side slightly inflamed. Mrs. P. 12x.

Throat still sore on right side: slightly inflamed with greyish center. Mrs. F. 12x.

CHEST.

Developed a succession of little pimples on forehead and chest; they were raised and red and when punctured exuded serum, blood and a little pus. E. W.

Red rash between shoulder blades which itches. Miss W. 6x.

Severe itching in left breast during day; at night a large red area in the center of left breast, which is raised at that point and sore to pressure. Miss M. 6x.

Redness on left breast has disappeared, though it still itches; there is merely a small pimple left, the top of which is drying. Wandering pains in right thoracic region running around the ribs. McD. 12x.

Thorax feels very much constricted. Feeling of a lump. in thorax and every time swallowed seemed to rise and caused stitching pain. M. 12x.

Constricted feeling in chest continues for some days. M. 12x.

Red papules one-fourth inch in diameter (3-4) on anterior surface of chest near sternum, both sides. S. 12x.

Bruised, sore feeling in thorax behind sternum and even beyond it. S. 6x.

Small, red papules on face and chest. S. 12x.

Beating pain at right of sternum, < at end of respiration. F. 12x.

Sore muscles over right breast, sore to touch; relieved by hard rubbing; nodules in breast plainly felt by rubbing. Mrs. F. 12x.

HEART - BLOOD VESSELS - BLOOD PRESSURE.

Tight, constricting sensation about the heart, > in open air; the sensation causes anxiety and a desire for air. W. H. D. 6x.

Systolic blood pressure before proving, 140 cm. Three days after taking drug, 120 cm. Two weeks after taking drug, 120 cm. W. H. D. 6x.

Constricted feeling in chest. M. 12x.

Sharp pains in region of the heart. S. 6x.

Sharp pains in region of the heart, passed off after walking. S. 6x.

Many dreams during night; awoke in midst of one panting as though had been running and with the heart pounding like a hammer. Was kept awake about one hour with tendency to dyspnoea and rapid and full heart action; sound in ears of rushing water; finally, by laying on my face with right arm under body, the force of heart passed away. There was a tendency to rapid action when arising, but it passed away during forenoon. F. 12x.

Beating pain at right of sternum over heart, < at end of respiration. F. 12x.

Palpitation of the heart during afternoon, also dizziness. Vertigo and palpitation of the heart during afternoon. Mrs. F. 12x.

Several other instances of vertigo. but of short duration. Mrs. F. 12x.

Systolic blood pressure before proving, 118. Mrs. F. 12x.

Systolic blood pressure after proving, 110. Mrs. F. 12x.

Systolic blood pressure before proving, 120. F.

Systolic blood pressure after proving, 110. F.

Systolic blood pressure before proving, 130. S.

Systolic blood pressure after proving, 110. S.

Systolic blood pressure before proving, 120. M.

Systolic blood pressure after proving, 120. M.

Systolic blood pressure before proving, 135. Mrs. D.

Systolic blood pressure after proving, 120. Mrs. D.

The action of Radium on the blood vessels applied *locally* in massive doses is to produce endarteritis with supervening sclerosis and atheroma and a subsequent contraction and closure of the lumen of the blood vessels and capillaries. This action is utilized in treating birthmarks, angiomas, port-wine marks, keloids, and fibroids - the resulting tissue change producing contraction of the parts treated with a pure *white* area, the area having no pigment, so that it

appears lighter and whiter in color than the neighboring normal skin.

BLOOD EXAMINATIONS.

<i>Prover McD.</i>	<i>Before Proving.</i>	<i>After Proving.</i>
Hemoglobin (Fleischel),	92 per cent.	85 per cent.
Red cells,	4,464,000	5,000,000
White cells,	9,000	8,000
Polymorphonuclear neutrophiles,	58.4 per cent.	69 per cent.
Small lymphocytes,	36.8 “	24.5 “
Large lymphocytes,	3.6 “	4.5 “
Eosinophiles,	1.0 “	1.0 “
Basophiles,	0.2 “	1.0 “
Abnormal white cells,	None.	None.
Morphology of red cells,	Good.	Fairly good.
Abnormal red cells,	None.	None.
 <i>Prover S.</i>	 <i>Before Proving.</i>	 <i>After Proving.</i>
Hemoglobin (Fleischel),	85 per cent.	85 per cent.
Red cells,	5,676,000	6,000,000
White cells,	6,000	6,000
Polymorphonuclear neutrophiles,	60 per cent.	70 per cent.
Small lymphocytes,	33 “	20 “
Large lymphocytes,	3 “	5.5 “
Eosinophiles,	3 “	4.0 “
Basophiles,	10 “	0.5 “
Abnormal white cells,	None.	None.
Morphology of red cells,	Good.	Good.
Abnormal red cells,	None.	None.
 <i>Prover F.</i>	 <i>Before Proving.</i>	 <i>After Proving.</i>
Hemoglobin,	93 per cent.	87 per cent.
Red cells,	5,750,000	4,800,000
White cells,	9,000	6,000
Polymorphonuclear neutrophiles,	45 per cent.	57.5 per cent.
Small lymphocytes,	42 “	33.5 “
Large lymphocytes,	9 “	5.5 “
Eosinophiles,	3 “	2.5 “
Basophiles,	1 “	1 “
Abnormal white cells,	None.	None.
Morphology of red cells,	Good.	Good.
Abnormal red cells,	None.	None.
 <i>Prover M.</i>	 <i>Before Proving.</i>	 <i>After Proving.</i>
Hemoglobin,	84 per cent.	90 per cent.
Red cells,	6,492,000	5,500,000
White cells,	9,500	15,000
Polymorphonuclear neutrophiles,	59 per cent.	72 per cent.
Small lymphocytes,	36 “	21.4 “
Large lymphocytes,	4.0 “	4.4 “
Basophiles,	0.0 “	0.8 “
Eosinophiles,	1 “	1.4 “

Abnormal white cells,	None.	None.
Morphology of red cells, depression slightly increased,	Central.	Negative.
Abnormal red cells,	None.	None.

<i>Prover, Miss W.</i>	<i>Before Proving.</i>	<i>After Proving.</i>
Hemoglobin,	80 per cent.	90 per cent.
Red cells,	4,000,000	5,500,000
White cells,	7,500	10,000
Polymorphonuclear neutrophiles.	54.6 per cent.	67 per cent.
Small lymphocytes,	37.4 “	26.2 “
Large lymphocytes,	2.6 “	3. “
Basophiles,	0.4 “	0.2 “
Eosinophiles,	5.0 “	2.8 “
Abnormal white cells,	None.	None.
Abnormal red cells,	None.	None.

<i>Prover, Mrs. F.</i>	<i>Before Proving.</i>	<i>After Proving.</i>
Hemoglobin.	85 per cent.	90 per cent.
Red cells.	4,488,000	5,500,000
White cells,	6,500	6,500
Polymorphonuclear neutrophiles,	59 per cent.	62.2 per cent.
Small lymphocytes,	34 “	33 “
Large lymphocytes.	5 “	3.6 “
Basophiles,	0.5 “	0.6 “
Eosinophiles,	1.5 “	0.6 “
Abnormal white cells,	None.	None.
Morphology of red cells,	Good.	Good.
Abnormal red cells,	None.	None.

The deductions made from the changes in the blood of the provers examined are as follows:
 I. Hemoglobin shows increase of 5, 6 and 10 per cent. in three cases, remained stationary in one and showed diminution of 6 and 7 per cent. in two cases.

2. Increases in erythrocytes are noted in prover McD. approximately 500,000; S., 324,000; Mrs. F., 1,012,000; Miss W., 1,500,000; F. shows a loss of 950,000. M. a loss of 992,000. The women provers show a gain of over one million and one million and a half, respectively. Two men show a gain of about one-half million each, while two men lost approximately one million each.

3. One point of *definite interest* was the increase in the leucocytes in provers Miss W. and M., both having distinct leucocytosis, while prover F. had leucopenia: the others showing practically no change. In the differential count the greatest value of the proving was found, for all provers, without exception, show a marked increase of the polymorphonuclear neutrophiles of from 15-25 per cent.; the small lymphocytes in all cases showing a diminution of from 10-30 per cent; the large lymphocytes an increase in some, a loss in others.

The absolute scientific fact which stands out clearly in the proving and which can unquestionably be attributed to the drug is the marked increase in the polymorphonuclear neutrophiles. These so-called policemen of the blood corpuscles are the ones which attack the invading bacteria and destroy them and the administration of Radium Bromide appears to have distinctly stimulated the organism in the elaboration and increase of these protecting organisms.

NECK.

Inflated feeling in back of neck, on left side, as if swelling. (Ernesty.)

Itching back of the neck and upper part of both arms. Miss W. 12x.

The parts are somewhat red.

Dull, throbbing sensation on right side of neck, posteriorly. S. 6x.

Sharp pains in back of neck on right side. S. 6x.

3 P. M. felt a catch in the right sterno-cleido mastoid. E. 12x.

During evening pain in left side of neck; stiffness of muscles of that side; wore off. F. 12x.

Slight aching in back of neck. F. 12x.

Pain and lameness of cervical vertebrae; < by dropping head forward, > by standing or sitting erect. F. 12x.

Left sterno-cleido mastoid muscle feels lame. F. 12x.

Red spot on left side of neck on arising; this disappeared and later a similar one appeared on right side of neck. Mrs. F. 12x.

BACK.

Dull backache lower lumbar region, > after exercise, it wore off. Ew.

Awoke with full aching pain in lumbo-sacral region, which is all that is left of severe aching all over the body experienced during the night. Rest of body feels tired, but aching has ceased. Mrs. D. 6x.

Severe lumbar and sacral backache all day; the aching > after a hot bath. Mrs. D. 6x.

Severe backache confined to lumbo-sacral region, continues with dull occipital and vertex headache. Mrs. D. 6x.

Severe aching pain in back - lumbo-sacral region; pain appears to be in bone, not in muscles, not improved by heat, nor by rubbing; somewhat better after cold rubbing. Worse stepping upstairs. W. H. D. 6x.

Sharp, shooting pains in lumbar muscles, which pass away after continued exercise. W. H. D. 6x.

Dull pain in lumbo-sacral region, > exercising. W. H. D. 6x.

Dull backache, lumbo-sacral region, > continued exercise. W. H. D. 6x.

Pain like electric shocks in lumbo-sacral region; disappear after continued exercise. W. H. D. 6x.

In afternoon had severe pains in left side and small of back, which seemed relieved from pressure, by putting my hand to left hip and leaning to that side I had some relief. The pain came in suddenly, but severely and lasted for fifteen or twenty minutes; heat did not feel good. Miss W. 6x.

Late in afternoon had backache in lower part of back; it felt good to press and lean to the left. Pain was deep and aching. Heat did not feel good.

Pain in sacral region, > by continued motion ;4 a little motion does not relieve. M. 12x.

Pain in lumbo-sacral region, > by much motion and from cold. M. 12x.

Very severe pains in lower back, which extended upwards, but disappeared after going into

the open air and exercising. M. 12x.

Dull pain in back, which starts at sacrum, and runs up the back to shoulder, > from exercising. M. 12x.

Pain in back at sacral region, which extended up the back to between the shoulders, > from exercise. M. 12x.

Soreness of left latissimus dorsi near shoulder. S. 12x.

Soreness of both latissimus dorsi; felt weak all over. S. 12x.

Soreness of both shoulders. S. 12x.

4 P. M. a sharp knife-like pain for ½ minute; between 3-4th lumbar vertebrae, about ¼ inch from center of spinal column to the left; the point was sensitive or sore to touch, the sensitivity remained after pain ceased. F. 30x.

Weakness and slight lameness of whole lumbar region. F. 30x.

Lameness in lumbar region. 1:30 P. M. sharp pain at same location as yesterday (above). lasted but a moment. F. 30x.

8 P. M. noticed catch in spine between last cervical and first dorsal vertebrae. F. 12x.

On awakening pain between 6-7 cervical vertebrae. > on motion. F. 12x.

Lameness in left lumbar region; also lameness in left hip and left el bow: passes away after exercise. F. 12x.

1 P. M. lameness in muscles over left sacro-iliac synchondrosis.

6 P. M. lameness increased; muscles ache and throb; pain passes away at bedtime. F. 12x.

In afternoon severe tearing and bearing down pain across lower part of back; sometimes more severe than others and coming through to the abdomen. Mrs. F. 30x.

Distinct triangular swelling over sacrum, base upward, about 3 ½ inches high; the swelling was whiter than the surrounding skin; there was heat in this swelling not relieved or aggravated by rubbing, but during afternoon was relieved by lying down with something hard pressing upon this region. Mrs. F. 30x.

Back conditions continue during morning, noon and evening; sometimes more severe than others and reaching through on each side of the abdomen to the crest of the ilia.

Produces a drawing sensation and feels like a plaster. Mrs. F. 30x.

Swelling over sacrum was slightly tender and pain in lower back continues, but not so severe excepting at long intervals. Mrs. F. 30x.

Pain in back was quite severe during evening; about 11 P. M. was nearly prostrated by a catch in the right lumbar region. Mrs. F. 30x.

Great flatulence in morning and pain in back continues, but not quite so severe. Mrs. F. 30x.

After two days back conditions gradually disappear. Mrs. F. 30x.

After remaining away one week backache returns (after taking 12x) while standing; gnawing sensation in bone as if it might be knitting. Mrs. F. 12x.

Backache between shoulders and lumbo-sacral region, > after walking. Miss H. 12x.

EXTREMITIES.

During the night very severe pains in all limbs; whole body involved. Mrs. D. 6x.

Awoke at 4 A. M: with such pains in all limbs that I could not stay in bed. Muscles not sore to touch, but had a desire to rub limbs. Could not keep them quiet. Walked about a little, then back to bed, but could not get rested. After a warm bath felt better. Miss W. 6x.

During the afternoon had pains in all my joints, but especially in the knees and ankles. Miss W. 6x.

Late this afternoon had pains in all limbs again, but they did not last long. Miss W. 6x.

Had pains in all joints, particularly knees and ankles, could not walk and had to lie down; my feet gave out. Miss H. 12x.

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UPPER EXTREMITIES.

Sharp pains in second and third fingers of left hand which disappear soon. Mrs. D. 6x.

Dull pains in whole of right hand; all fingers affected, particularly the distal phalanges; > from rubbing, > from continued exercising. Mrs. D. 6x.

Sharp pains in joints of fingers, better after prolonged exercise. Mrs. D. 6x.

Sharp pain in right shoulder joint, not better on moving, but gradually wore off. W. H. D. 6x.

Pain in right shoulder joint, < motion, > heat. W. H. D. 6x. Lame sensation in right arm, forearm and hand, > exercise. > warmth, the pain and lameness wore away gradually. Sharp, stitch-like pain in left shoulder joint, which wore off. W. H. D. 6x.

Small pustule on center of dorsum of right hand. W. H. D. 6x.

Itching in upper part of both arms and back of neck; the parts are somewhat red. Miss W. 12x.

Arms feel heavy; soreness of both shoulders; soreness of latissimus dorsi; feel weak all over. S. 12x.

Biceps feel bruised. S. 12x.

Left wrist had bruised sensation. S. 12x.

Catch in left shoulder joint. > On exercising; pain wore off. F. 30x.

Lameness in left shoulder joint under deltoid. F. 12x.

Twice during day lameness of left shoulder under deltoid. F. 12x.

Lameness of left shoulder, passes off on motion. F. 12x.

Pain and lameness of wrist while holding a book. F. 12x.

Lame left shoulder and stiffness of spine at last cervical and first dorsal vertebrae, during late afternoon and evening. F. 12x. Lameness of left arm, biceps and deltoid feel sore; were off after exercising. F. 12x.

11:15 A. M. catch in right wrist, lasted for a moment. F. 12x.

Left shoulder sore and lame all day; < after exercise. F. 12x.

Right elbow stiff and slightly lame after writing. F. 12x.

Right shoulder joint lame, after dressing. F. 12x.

Cracking of right shoulder joint when raising right arm over head. F. 12x.

Lameness of left thumb joint following holding of book, > after active motion. F. 12x.

In morning, twinging pain in left elbow. Mrs. F. 30x.

Severe crick under right shoulder, pain, lancinating in character.

Drawing, cramping pain in left elbow 7 P. M. Mrs. F. 12x.

Sore biceps in left arm. Mrs. F. 12x.

Sharp, sticking pain under left shoulder blade through to front of body; it caught my breath as if I could not raise the diaphragm. Mrs. F. 12x.

Very lame right arm and sore muscles over right breast. Mrs. F. 12x.

Severe drawing pain in flexor muscles of left arm. Mrs. F. 12x.

LOWER EXTREMITIES.

Sharp pains in left great toe, < motion; better from exercise; passed over quickly. Mrs. D. 6x.

Numbness of both great toes, improved during sleep. Mrs. D. 6x. Numbness in both great toes, > after exercise. Mrs. D. 6x.

Pain in great, toes of both feet, < moving about, > after continued exercise. Mrs. D. 6x.

Dull pain in right knee joint, < motion, better after continued exercise. W. H. D. 6x.

Sharp, arrow-like pain; lightning-like pain in left anterior tibial surface as if in the periosteum. W. H. D. 6x.

Sharp pain in calf of left leg - pains sharp and darting in character; come on suddenly and disappear quickly. W. H. D. 6x.

During evening and night had sharp pains under big toe of right foot; the toe aches when moved. Miss W. 12x.

Every little while have a pain in and around big toe of right foot. Miss W. 12x.

Had shooting pains in my joints, particularly in my knees, ankles and toes. Miss W. 12x.

Excepting for a few shooting pains in body and an itching of the skin: all over, have felt fine to-day. Miss W. 6x.

During the afternoon had pains in all my joints. but more in the knees and ankles. To-night my toes ache badly. Had the desire to keep moving, but it did not relieve the pain; felt easier after a hot bath. Miss W. 6x.

All the afternoon had severe pains in limbs again; to-night toes feel very sore; desire to move them, which does not feel good; very hot water makes them feel better. Miss W. 6x.

Have had pains in limbs off and on all day and during afternoon more especially in toes; Miss W. 6x.

These pains continued to manifest themselves for three weeks after the last administration of the drug. Miss W. 6x.

When crossing legs they became "asleep" in a little while. A few days later noticed difficulty in going upstairs, the lower extremities felt very heavy. McD. 30x.

For the last three days corns and feet have been over-sensitive. McD. 12x.

Dull pain in calf of left leg. McD. 12x.

Pain under left patella relieved when foot was still, < walking and moving; also dull aching pain in left big toe joint after dancing. Never had it before. McD. 12x.

Dull pain in right big toe; tarso-phalangeal joint. Had desire to contract foot to relieve it, but

had no relief. McD. 12x.

Dull pain in hip joint located at head of femur; nothing would relieve it and it irritated terribly; also pain under left patella. McD. 12x.

Dullness and weariness of legs, which go to sleep easily upon being crossed. McD. 12x.

Kink in right hip joint, > after walking for a time. McD. 12x.

Pain in right hip, > after exercising. McD. 12x.

Pain in popliteal spaces, just like a tired feeling, relieved after exercises. M. 30x.

Pains in knee joints and popliteal spaces better after exercise. M. 30x.

Pains around the borders of the nails of the feet; better with rest; worse on pressure and motion. M. 30x.

When walking dull pains in popliteal spaces. M. 30x.

Better resting and legs extended.

Dull, tired pains in popliteal spaces at knee joint; better after exercise and in open air. M. 12x.

Pains in popliteal spaces, > by exercise. M. 12x.

Very severe pains in knee joints, very deep, as if in the joints and muscles, > from cold, > exercise. M. 12x.

Ten A. M. pain in knees, > after exercise, < remaining quiet. M. 12x.

Pain in legs beginning in knees and running down the legs, > after exercise. M. 12x.

Pains shifting to hip joint and knee joint, dull aching in character, > by exercise and cold. M. 12x.

Dull pains in back and both legs running upwards to shoulders. M. 12x.

Pains in legs and back on rising, > after exercising and in open air. M. 12x.

All forenoon very weak, too tired to walk. S. 12x.

Pain in left great toe for a minute or so; great burning as if acid had been poured on it and then spread. S. 12x.

Soreness in thighs and calves. S. 12x.

11 P. M. sensation of needles pricking on the two middle toes of right foot with a little burning. S. 12x.

Bruised feeling in calves of legs. S. 12x.

Slight catch over left crest of ilium and tired feeling in lumbar region. F. 30x.

Pain in big toes of both sides: pains are sharp and stabbing: better after walking; they pass off; pains also better after hot bath. Miss H. 12x.

Left groin aches in both thighs seemed lame on beginning to move; passed off after walking. F. 30x.

Lameness on both groins after sitting and first beginning to move. F. 12x.

Lameness and catch in right ankle while descending stairs; passed away after continued exercise. F. 12x.

Lameness in left ankle and catch in small of back with a beating pain lasting but a short time. F. 12x.

Lameness in both groins after continued sitting, > by active motion. F. 12x.

Beating pain in right hip, while sitting at desk writing. remaining only while sitting, > on beginning to move. F. 12x.

Upon arising, ankles and feet seem lame and stiff, could hardly stand or walk; after five minutes this passed away. F. 12x.

Twinges in left thigh muscles in morning. F. 12x.

Left thigh feels lame. F. 12x.

Both thighs feel lame. F. 12x.

Beating pain in left great toe joint lasting ten minutes. F. 12x.

Arose feeling very stiff and lame. Muscles of legs and hips sore. Relieved much by vigorous rubbing with flesh brush. Mrs. F. 30x.

Sore, tender Achilles of right foot. Felt it while climbing the stairs. Mrs. F. 12x

Muscles in antero-exterior part of right leg lame, < from walking and rubbing. Mrs. F. 12x.

Sharp, sticking pain in arch of right foot. Mrs. F. 12x.

Sharp, sticking pain in right knee. Mrs. F. 12x.

Severe. drawing pain outside of right knee. Mrs. F. 12x.

Soreness and pain in both knees, which feel as if the bones would protrude. Miss H. 12x.

SKIN.

Succession of small pimples on forehead and chest; they were raised and red, when squeezed exuded serum, blood and a small amount of pus. Ew.

Small pustule on center of dorsum of right hand. W. H. D. 6x.

Red, large papule on chest. W. H. D. 6x.

Scaly eruption about size of ten cent piece on anterior surface of right thigh, < scratching, > heat. W. D. H. 6x.

Scaly circumscribed eruption on flexor surfaces of both forearms which bleed on being scratched; slight itching, < scratching, > dry heat, > in open air, < bathing in either cold or hot water. W. H. D. 6x.

Red, papular eruption on right eyelid with slight itching, > dry heat. W. H. D. 6x.

Scaly eruptions below left eye, size of pea. The scale, when removed, caused a few areas of bleeding, no distinct sensation in eruption. W. H. D. 6x.

Swelling of the tissues about the left orbit with slight itching, > in open air. W. H. D. 6x.

Both hands of prover have been covered with evidences of chronic radio-dermatitis (x-ray and Radium), which had resisted treatment for several years. There were occasional improvements after the use of supposedly indicated remedies or the use of physical agents, but the lesions would constantly recur. The lesions consisted of eczematous eruptions, cracks and fissures, scaly excrescences, verruca-like outcroppings with almost constant itching and burning. After the proving of Radium these skin lesions gradually disappeared and have, at this writing (60 days), not reappeared. W. H. D. 6x.

Itching all over the body at night. Miss W. 12x.

Itching over back of neck and upper part of both arms; the parts are somewhat red. Miss W.

12x.

Itching of skin, especially chest and arms on second day of menstrual flow. Miss W. 6x.

Red rash between shoulder blades, which itches. Miss W. 6x.

Severe itching on left breast during day; at night a large area on the center of left breast, which is raised at that point and sore to pressure. Miss W. 6x.

Redness on left breast has disappeared though it still itches; there is merely a small pimple left, the top of which is drying. Miss W. 6x.

Corns and feet have been over-sensitive. McD. 12x.

Small, isolated, tender pustules, especially on back and sides of neck; one on arm. McD. 12x.
Red papule on surface of right chest, about one-half inch in diameter, slightly raised. Lesion gradually lost its red color, there was no pain. except when the lesion was squeezed, when it exuded sebaceous material (sebaceous cyst). M. 12x.

Red papule on right side of mouth. S. 12x.

Red papules (3-4) one-fourth inch in diameter on anterior surface of chest near sternum; both sides. S. 12x.

Two red macules, size of twenty-five cent piece (3-4 inch) on right and lower abdomen, slightly itching. F. 12x.

Macules also on chest and two on back below scapulae; all were slightly itching. F. 12x.

Several red spots on legs, thighs and chest, which itch and are < by scratching; these spots disappear during the night. F. 12x.

Itching all over body; burning of skin, as if afire. After hot bath felt as if afire; this was followed by a papular eruption on both buttocks; several papules the size of a pea. These papules burn and itch and pass away after an hour or so. Miss H. 12x.

Red spot on left side of neck noted upon rising; this disappeared and later a similar one appeared on the right side of neck. Mrs. F. 12x.

The action of Radium bromide applied locally in *mild doses* causes dermatitis, with redness of skin, burning and itching, - these symptoms gradually appear in from 2-4 days, and gradually disappear in from two to four weeks. leaving a slightly pigmented area.

If the dose is a heavy or prolonged one (2-4 hours of a placque of 200,000 or a tube of pure Radium bromide), the dermatitis is followed by blebs, exudation, swelling and formation of scales and crusts when the former subside. These crusts may form and reform a number of times and eventually contraction of tissue is noted with bleaching of parts and formation of a white, thin scar. If the dose has been excessive, or a heavy dose has been repeated too soon (within one week), necrosis of tissue will supervene the primary dermatitis, simulating in many ways a rodent ulcer or epithelioma. This lesion will resist regeneration for many months and when scar tissue formation has been secured a milk-white scar will result. In many cases of over-dosing teleangectasis similar to naevi and birthmarks will be caused.

SLEEP - DREAMS.

Restless during night. Kept moving about in bed, which relieved the aching pain. Mrs. D. 6x.

Dreams of passing urine. 6x.

Shock passed through body during sleep like an electric shock. W. H. D. 6x.

Sleepiness with lethargy 4-5 P. M. This recurred for one week during the proving, > after an hour's rest. W. H. D. 6x.

Irresistible sleepiness 4-5 P. M., > from sleep. W. H. D. 6x.

Slept soundly. but had dreams about fires; it is unusual for me to dream. Miss W. 12x.

Slept well. but dreamt very vividly about being in a fire; I woke towards morning very excited, dream seemed so real; took some time to pull myself together and glad it was only a dream. Miss W. 12x.

Dreams of committing suicide in some ridiculous way; awoke early feeling much excited and glad to know it was morning. Miss W. 12x.

Had a very restless night on account of dreams, which awakened and frightened me during night. When I finally awoke I was so dazed and confused it took me some time to find my bearings; all day subsequently I felt as if something was going to happen. Miss W. 6x.

Slept well all night, but dreamed badly again; awoke with a fear of being alone and wished for some one. The dreams were vivid and it took me a long time to realize that I was dreaming, things seemed so true. Do not want to be alone. Miss W. 6x.

Restless all night with bad dreams; low spirited the following day; wish for things and have great desire to be with people. Miss W. 6x.

Slept very restless all night, and felt heavy this morning. Dreamed all night, but do not remember what it was; in good spirits as the day progressed. Miss W. 6x.

Awoke in morning feeling drowsy and weak; feel better after going out into the open air. M. 30x.

Feel sleepy during the day, but am well otherwise. M. 12x.

Feels tired and drowsy. M. 12x.

Felt very tired on retiring. F. 30x.

Restless and wakeful part of night. F. 30x.

Sleep well, but get up tired. Desire to stretch. F. 30x.

After taking drug again had a night of many dreams (an unusual occurrence). F. 12x.

Another night of dreams; nothing alarming, but busy dreams. F. 12x.

Many dreams during night, awoke in midst of one panting as though running, with the heart pounding like a hammer; was kept awake about one hour, with tendency to dyspnoea and a rapid and full heart action; sound in ears of rushing water. F. 12x.

Very sleepy during evening. F. 12x.

Busy, active dreams at night. F. 12x.

Restless night with disturbing dreams, awoke feeling quite good, however, and the following two days felt very well, no symptoms. F. 12x.

FEVER AND CHILLS.

Cold sensation internally all day; chilliness with chattering of teeth until noon; late in afternoon these symptoms ceased (during menses). x.

Felt hot all over body, so that had; to take off the bed covers. Mrs. D. 6x.

Internal chilliness followed by sensation of heat, as of fire, of the skin (no perspiration); usually perspire freely. now I do not perspire; instead my urine, which is usually scanty. now profuse. Miss H. 12x.

Internal chilliness associated with many movements of the bowels and flatulence. Miss H.

12x.

After injections of Radium gelatine the writer noted in numerous cases the following sequence: (Injections of gelatine alone did not produce these phenomena).

From fifteen minutes to one hour after the injection severe chill, with chattering of teeth in some cases, followed by rapid action of the heart and gradual rise of temperature after 15-30 minutes of the chill. The temperature in cases where large doses (one ounce) were injected, rose as high as 105° F., with smaller doses 102-103° F. was the usual reaction. This fever would keep on in some cases for three days; in others from one to three weeks: in one case for six weeks. The higher the fever and the more prolonged the pyrexia the better was the resulting action on malignant tissue. All successful cases had prolonged fever and subsequent shrinkage of malignant tissue with supervening fibrosis.- Subsequent reinjections produced the same result; indicating that febrile processes appear to have inhibitive action on malignant cells and explaining why different injection methods (Coley, Alexander) have earnest advocates based upon success obtained following injections.

The writer has not studied the action of the administration of potencies of Radium bromide sufficiently long to make comparisons with other drugs. As the symptoms are gone over Rhus tox., Rhus ven., Arsenicum album, Pulsatilla, Sepia and other polychrests are called to mind and a study of the differentiation of these and other drugs with Radium bromide is invited. Dr. J. H. Clarke suggests Rhus venenata 3x as an antidote to Radium bromide, and the writer has employed this drug and Rhus tox., particularly, in relieving the persistent cough produced by Radium bromide.

In conclusion, the writer desires to thank the provers individually and collectively for their faithful work and also desires, to give acknowledgment of the co-operation in their specialties of Drs. Crump and Copeland. Particular thanks are due Drs. Sayre and Stearns for the many hours they devoted to their special branches of pathology and materia medica. Thanks are also due Hahnemann Hospital for the use of its pathological laboratory through Dr. Sayre.”

(William H. Dieffenbach, M.D., New York City, The proving of Radium bromide, Journal of the American Institute of Homoeopathy vol. 4 (1911-1912), p. 112-142. In collaboration with Drs. Royal S. Copeland, Walter Gray Crump, Henry C. Sayre, Guy B. Stearns.)

1912 - Verifications of Symptoms of the Proving of Radium Bromide

“Since the proving of radium bromide, about two years have elapsed and a report as to verified symptoms seems opportune and justifiable. A number of reports on this remarkable compound have been received, some laudatory, others condemnatory. In the latter, the undue expectations of the physician were often shattered, especially if the remedy was used empirically, being prescribed simply for the name of a disease without reference to the particular, peculiar symptoms which the compound aroused in the provers.

Nearly all the watering places of Germany, France and Austria have these so-called radium emmenatoria, radium injections, radium mud, with which they treat indiscriminately cases of rheumatism and gout, some of which are relieved in a very remarkable way, and in others of which they have failures. Thus the dominant school, especially in Europe, is now radium-mad in the treatment of rheumatism and gout and, if we follow this precept, failure must also result in many cases.

The verified symptoms as noted by the writer are as follows :

I. Severe aching pains all over the body, with restlessness ; better by moving about. Pains gradually subside after continued exercise.

II. Periodical sharp pains in joints, better by continued motion; better in the open air.

III. Burning sensation of the skin; itching all over the body.

IV. Severe cases of vertigo were relieved by radium bromide - this compound produced vertigo in several provers when given in low potency.

V. Dryness of the mouth. After etherization this symptom is often met with. Radium bromide in potency relieved this symptom in a number of operative cases. You will find them suffering from an extreme dryness of the palate, and they desire some relief ; a sip of water, of course, gives them relief. But I have found in my experience that prescribing this remedy, which produces an excessive dryness in the throat and mouth, has been undoubtedly a palliative in a number of these operative cases that had suffered from the effect of ether.

VI. Colicky pains in abdomen, with passing of foul flatus.

VII. Catarrhal or interstitial nephritis with rheumatic symptoms corresponding to the proving has apparently been benefited.

VIII. Irregular or delayed menstruation. In several cases of dysmenorrhoea radium bromide has given evidence of improvement.

Dr. Bailey of Chicago, who uses a mixture of thorium and pitch blende, which, as you know, contains a very minute quantity of radium and a number of other elements, has made pads of thorad-ex, as he calls it, which he uses in dysmenorrhoea and from which he claims to have had some very remarkable results. The provings show a distinct irregularity of menstruation after taking this remedy in a moderately large dose, so that homeopathically it should be selected for some of these cases.

IX. Dry, tickling cough, worse at night while lying in bed. Of the many remedies having these symptoms radium bromide should be considered. That was a very marked symptom. You see, we have here a compound of bromine and radium, and the radium apparently emphasizes the bromine dry cough. The cough was so bad that the patient could not sleep. Of course we have many such symptoms - dry cough, worse when lying down - but this is one of the remedies to think of. I should particularly think of it with the concomitant rheumatic symptoms. It has palliated several cases of night cough in phthisis.

X. Dull backache, lower lumbar region, better after exercise. Lumbo-sacral pains were

produced in nearly all the provers and the writer has had verification in a number of instances. One case of lumbo-sacral pain, apparently located in the periosteum, in the case of a book-binder who had suffered for over twenty years, has apparently been cured by radium bromide and the application of heat and high frequency currents.

XI. Sharp pain in small joints ; dull pain and soreness of muscles. It is in rheumatism and gouty arthritis especially that verifications of symptoms have accumulated. The pains of locomotor ataxia have been palliated. Scientific medicine precludes labeling any product as a specific, but radium bromide apparently covers many symptoms of the rheumatic patient - so much so that its symptoms ought in all cases to be compared with the case in hand. Obstinate cases of arthritis are reported cured, and apparently hopeless cases of many years of invalidism have shown evidences of improvement and cure. Inasmuch as eight provers developed 135 symptoms referable to painful muscles or joints, the sphere of radium bromide in rheumatic and gouty conditions seems well indicated. The symptoms are sharp, dull aching pains which do not improve with moving or exercise but gradually wear off. The pains are usually worse at night, and affect not only the muscles and joints but the periosteum as well. The patient is better in the open air, craves oxygen and walks about if he can, as the exercise gradually wears out the pain. Several correspondents claim that radium bromide invariably aggravated their cases of rheumatism. This was due, in the writer's opinion, to frequency of repetition of the dose and to the use of too low a potency. Dr. I. J. Lane of Ossining, N. Y., reports that upon noting the aggravation in several cases of arthritis from the 12x potency, he ran up the potency to the 14x, gave but two doses and waited four weeks before repeating the dose. This potency and method of dose, he claims, has cured for him several inveterate cases of supposedly in curable rheumatism. He has a reputation in Ossining now for the curing of rheumatism, and he gives the 14x and gives it in infrequent doses. In my own practice, the 30x potency is prescribed, placing six tablets in a bottle with sac. lac. tablets and advising two tablets night and morning until improved. This practically gives three doses and sac. lac. for the rest of the period until the patient is again seen, and obviates aggravation.

XII. Pruritis; itching of the skin, with burning. Chronic cases of acne have been improved.

XIII. Psoriasis has been reported to me as cured although, personally, the effect of this remedy on this intractable disease has not been verified.

XIV. My own case of X-ray dermatitis of several years' standing has apparently been cured since the proving of radium bromide, the potency used by myself during the proving having been the 6th decimal. I had a dermatitis of both hands, with cracks and rugae, and apparently small lesions that were very suspicious of a possible degeneration. Since I have made the proving my hands, as my friends know, are apparently cleared up.

XV. Two cases of rhus poisoning were relieved of the burning and itching and undoubtedly palliated by radium bromide 30x.

While I was at Pittsburg, at the last meeting of the American Institute, the mother-in-law and another member of the family became poisoned with rhus. and my assistant prescribed the usual remedies, with comparatively little or no result, and applied hyposulphite of soda in saturated solution. When I came back they were in very bad condition. They had the typical burning and itching of radium bromide. I prescribed the 30x and, whether the case was on the mend or not I cannot absolutely say, they promptly had less of the subjective symptoms.

XVI. Dr. Daniel Simmons, of Brooklyn, N. Y. has recently reported to me the cure of a case of enuresis of forty years' standing that responded to radium bromide tablets which were given for a co-existing arthritis of the knee. The arthritis improved and with it the enuresis ceased.

In this particular case he gave the radium bromide for the arthritis of the knee, leaving entirely

out of consideration the enuresis with which this patient had been suffering for forty years. With the improvement of the arthritis, the enuresis coincidentally has apparently been cured. He thinks that is a very remarkable coincidence. In the provings we have no such symptom as loss of urine. We did not carry the proving, probably, as far as that. We have no distinct symptoms indicating enuresis at all, but the remedy in this case was prescribed for the condition of the knee and with it this chronic enuresis has apparently been relieved. He also reports a case of lumbago of many years duration which the administration of radium bromide has apparently cured. A case of lupus vulgaris with coincident rheumatoid arthritis also responded to the internal administration of radium bromide, plus the local application of radium bromide paste.

XVII. Dr. J. D. Zwetsch, of Gowanda, N. Y., reports the cure of several cases of polyarthritis of many years' duration following the prescription of radium bromide.

In conclusion, it appears to the writer that this remarkable medicine must be used with caution. If given in low or high potency, its repetition should be carefully considered ; and the tendency toward prescribing the remedy empirically for rheumatism and gout must be checked. At the present time there is a veritable fad in Europe in the use of radium for rheumatism and for gouty conditions, owing to glowing reports of its success by eminent authorities. We, as homeopathic prescribers, can only sanction its use in these conditions if the symptoms are found to agree with the provings, which fortunately have brought out distinct modalities for its application.

DISCUSSION.

Guy B. Stearns : Apparently the proving of this remedy brought out more particularly the symptoms in the direction of rheumatic affections. I have kept in mind the remedy ever since the proving, hoping to have a good case for it, and the only one that came my way was not under my care long enough. It was a case of rheumatic affection, with crippled heart from endocarditis, and the case went into the hospital where I could not treat it. I have for the purpose of discussion communicated with as many physicians as I could, those whom you know as high potency men, with a view to obtaining their observations to put in with the others, and very few of the men have had any experience, so I can give you only those who have responded.

From Dr. Frank Patch of Framingham I have this report :

A case of violent eczema of the lower extremities appearing after removal of the breasts for a supposed carcinoma. Pain and itching of extremities so severe as to allow of only two hours sleep all night. Radium, 6x, gave some relief, but the CM wiped out the whole thing, together with pain in the cicatrix of the wound and the patient has been better than for years before, ever since this recovery which was about 2 ½ years ago. I have used radium paste two or three times on epithelial conditions without effect and have also used the tablets put up by Boericke & Runyon on rather indifferent indications and so far without marked results.

That evidently was not the radium which was used in this proving but was probably *radium chloride*. That was before this proving was made.

From Dr. Sherwood of Chicago :

He says that he has used it in one case of scirrhous of the breast in which there were no symptoms except those common to the pathology of cancer. He gave the 1000th of radium bromide which was run up from the same drug from which this proving was made. He reports that this remedy controlled the severe pains in this case, and, to a certain extent, the growth of the tumor.

And there is a very good case reported by Dr. Boger of Parkersburg. He is writing a *materia medica*, and in that he has incorporated some observations of radium which are mostly

extracts from the proving which was made.

Pretty pronounced case of neuritis with following symptoms: Burning in the left arm and hand, aggravated by touch or stretching the arm, which also caused numbness. The pain was severe and ameliorated only by hot bathing or continued motion. For this she received 4 doses of radium bromide 30th with the result that in three days she was practically well.

These are the only results that I have from the thirty or forty requests for reports, and they indicate its usefulness in malignant diseases and for skin conditions. There was nothing in the provings to indicate the malignant tendency of the drug except, perhaps, the loss of flesh in one of the cases and marked increase in the excretion of the urates. There is another suggestion, or hint, perhaps, in the character of the pains. The pains were severe, and many times nothing made them better. That is, they simply persisted, very much like the pains of cancer. Since the proving I gave to a young man a few doses of the 12th, and over a period of several days he had very marked headache, frontal mostly, but nothing made it better, nothing made it worse ; simply persisted, couldn't get rid of it ; couldn't get any particular characteristic of the pain except that it was very severe ; so that I would put down in my notes, or carry in mind, "persistence of the pains" as probably a characteristic of the remedy.

One other point. Dr. Kent of Chicago gave a dose of the 200th x at intervals of about six weeks, I think it was, to an old gentleman, and in the course of a few days he developed a scaliness of the skin so he would scrape up a quantity of dry bran-like scales from his bed with, as I remember, a very slight amount of itching. No localized points of scaliness or areas, as in psoriasis, but it was a general scaliness. This lasted three or four weeks and then disappeared. The second time he tried the experiment, the same thing occurred. Dr. Kent in his answer said he had no experience that he felt like reporting on the use of the remedy therapeutically.

Emily F. Swett : My experience with radium bromide has not been very extensive, but it has been very impressive. Our chauffeur, a man 45 years of age, a man of exemplary habits, absolutely temperate, about six years ago developed a small lupus on the side of the nose. He was treated with the X-ray and various other treatments, and was apparently cured. Early in June the growth seemed to be resuming activities and I did not know what to do. So, on the recommendation of those who have written upon this subject, I thought I would try radium. I had an application of the paste made upon the nose, and I gave him one tablet of radium, the 12th x, night and morning, in a glass of water. He took the first tablet at night and, after taking the tablet in the morning, he came to me wanting to know if I had not made some mistake. He thought I had poisoned him. I assured him I had made no mistake. He said he couldn't stand up, he was so dizzy ; couldn't do anything, he was so dizzy and so weak ; his muscles were just giving out, he couldn't do anything. I told him to discontinue the remedy for a little time and report to me. It was- two weeks before he regained his normal condition. Then I asked him to resume the remedy. He took another tablet at night, of the 12th x, in water. The next morning he took another tablet. Within an hour all the old symptoms had returned, but with very great intensity. He could not stand up; his muscles were so weak he felt he couldn't do anything, and he had to go to bed. I visited him at his home. Asked him if he was in any pain. He said, absolutely none. As he lay in bed the vertigo had entirely disappeared. There was no pain in the muscles, but he said he believed that if he should move his arm or his leg or neck they would break ; they felt so hard and so brittle. He was obliged to keep his bed for five days. Said he felt perfectly well when he was still, but when he got up felt like a "queer man". It was three weeks before he was able to do his full amount of work. I was very sorry for the man, but felt sure I had secured a good proving of radium bromide, and I waited for a case, and had not long to wait.

Mrs. C, a widow, aged fifty, had been rheumatic for fifteen years and, for ten years,

absolutely helpless. I never saw so completely muscle-bound a case in all my former experience. It seemed as if every muscle in her body had lost its contractility and was hard and tense under the finger. Every muscle seemed to be involved. She was a vivacious, amiable, lively little woman, naturally a very rapid talker, but now she articulated with great difficulty and her speech was very deliberate. I asked her why she talked so slowly. She said her tongue was stiff and the muscles of the neck. There was a feeling across the abdomen as if there were large ropes under the skin, hard and tense. She could not move her head. Couldn't lift either foot from the floor. Couldn't raise her arms ; had just a little movement of the fingers. She had been in a sitting posture so long that it seemed as if the knee-joints and hip-joints were ankylosed and never would move again. She was tumbled into bed and kept the same posture in bed. I asked her what she had tried. She said she had tried, she guessed, everything; had tried homeopathy, allopathy, osteopathy, hydropathy, baths of all kinds - hot air, steam, mineral and mud baths - electricity of all kinds, serum injections, vibration ; and, she said, never for one minute had she been relieved. Another peculiar thing about it was that this gradual hardening process had been absolutely painless.

I thought, after she had tried all of those things, I was perfectly safe in trying radium. So I gave her half a tablet of the 30th x, in the morning, in water. Another half tablet at night. She reported to me that for the first time in her fifteen years of sickness she had pain. About twenty minutes after taking this dose of radium she ached all over for about three or four hours. Then it gradually disappeared, but came on again twenty minutes after she took the next dose. She has used this for about four weeks in this way, occasionally skipping a night or a morning, and for the last two weeks she has taken half a 30 x tablet in the morning and half of a tablet the following evening. I went to see her yesterday in order to bring the very latest report of the case here to-day. I found her sitting at the dining table, feeding herself. She had been asked some weeks ago to provide herself with crutches and make an attempt at walking. She reached for her crutches, got up from her chair unaided, put her crutches under her arms, stood very nearly erect, and walked into another room, lifting her feet over the threshold, and seated herself. I placed myself before her and said that now I should like to see what she could do. She began to turn her head, turned it just about one-quarter, the full extent that you could turn your head. She raised her shoulders and threw them back. Heretofore she had felt as if she were encased in an iron jacket fitted just as tightly as possible ; said her ribs did not move a particle when she breathed. Now she could expand her lungs. Raised both hands to her head and extended her arms, the right arm very nearly straight. Moved her body backward and forward in her chair, and leaned over both sides of the chair, touching the floor with her fingers, and could raise both feet fully twelve inches from the floor. The hardness of the muscles is disappearing, although still somewhat lumpy. She has one peculiar symptom: she is taken occasionally with very acute twinges of pain in the muscles, accompanied by a snapping which she says is audible to herself. She tells me these snappings. or these twinges, always come in three's. For instance, one day she had a hard snapping in the biceps of the right arm ; then again in the elbow and in the fore-arm. It was followed by a soreness as if she had been struck and bruised ; but she finds, as the soreness subsides, after a few hours, that the joint will move. This has occurred in both arms, in both sides of the neck, down to the shoulder, across the chest, across the abdomen and in the back of both legs. She now can not only partially close her hand but she can move her fingers in this way, (*indicating*) and can turn her ankles very freely and lift both feet about a foot from the floor.

I am sure it is to radium that all the credit for this belongs, for she has taken absolutely nothing besides this. I think I am justified in promising that woman that I can give her still further relief. Of course, had I not seen her so much worse than she is to-day, I should say her condition was deplorable now, but I think with this wonderful remedy we shall be able to make her a free woman again. As I said in the first place, my experience with the remedy is not very

extensive, but it has been very impressive.

J. D. Zwetsch : After listening to the most excellent paper of Dr. Dieffenbach, I wish to give you my experience with radium bromide. After reading Dr. Dieffenbach's paper which he read before the American Institute of Homeopathy at Narragansett Pier, I procured some radium and began using it for rheumatism. Out of 20 cases I made nine (9) permanent cures. In 12 cases I received no benefit from the use of radium, and 1 under treatment now is doing nicely.

Five of the 12 cases in which I failed were sciatic rheumatism ; I obtained no effect whatever. Six were acute rheumatism. One of the 9 cases cured was an acute rheumatism of the right arm, the arm being very badly swollen and the suffering was intense. Temperature 103°. The man was a hotel keeper; a man who drank quite a little, but a high liver. I don't know but that there was some gout about it. In 48 hours the pain ceased entirely, and in a week the swelling and stiffness all left the arm and he has had no return of it since.

Four cases were ordinary chronic rheumatism in elderly people. Three cases I think are very interesting, and I will briefly describe them :

G. K., 50 years old. contractor. A hard working man of good habits. His work subjected him to exposure, getting wet, which caused attacks of rheumatism. Three years ago he met with a street railway accident - was knocked off a load of hay - and received, which the X-ray revealed, an impacted fracture of the left leg, also a bad laceration in the right groin, through which he had some infection. I saw the man only twice in the four weeks he was in Buffalo. Four weeks after the accident he returned to his home in Collins and came under my care. Before he became entirely well from his accident he had a severe attack of rheumatism. Both ankles, both knees, elbows and shoulders were apparently perfectly helpless and he was confined to his bed three months. Then he was able to get up around on crutches and, as warm weather set in, he went to Mt. Clemens where he received some benefit. In a short time he became worse, an endo-carditis developed and he was confined to his bed again. After a time he went to Buffalo to the hospital for treatment. While there he was examined by experts for the Buffalo Street Railway. I also had one of the best experts on the heart, in the city, and none ever thought the man would be any better. In the spring he returned to Mt. Clemens but did not receive much benefit and returned home, and stopped treatment with the doctors and had no treatment whatever until the last of September, 1911.

I had a talk with him about trying the radium, which he agreed to do. I prescribed radium 12x tablets, and in three days he had greatly improved. In two weeks he was able to walk without a cane or crutch, and in less than four weeks from the time he began taking radium he walked to the station which is about one-eighth of a mile, and as a storm came up he ran to his home ; something he had not been able to do in over three years. Last winter he drew logs, and he has done nearly all his farm work this year. I saw him yesterday, and he told me he was perfectly well and feeling fine. Has taken no other medicine since. I think Dr. Potter, here in the room, saw this man when he was perfectly helpless in bed.

The next case, C. M., a man about 45 years of age. who had been troubled with rheumatism several years. Hard for him to walk, weak. He has been to several sanitariums, and I don't know how many physicians. Being a friend of the previous patient of mine, through him he came to me. I gave him radium enough to last him 10 days. At the end of that time he wrote me he wanted two bottles more ; that it was helping him very much. The last I heard of him he was feeling fine, able to be around and attending to business.

The third case, a man 72 years old. Fifty years ago he contracted a specific disease and spent 5 months at Hot Springs. Arkansas. Since then had been apparently a well man, up to 2 years ago. He is a man of good habits, doesn't drink. He began to be troubled when he tried to walk

in the dark; also had swelling soreness of the left knee joint, also some pains in the lumbar region. He was put on specific treatment without any benefit. He consulted his old family physician in Buffalo for a time. Three months ago he came back to me. I had been giving him various remedies without any benefit. About three weeks ago I gave him radium bromide. He told me a few days ago he began to feel the effects almost immediately, and that he had improved every day since and was able to go hunting. I saw this man yesterday and asked him how he was feeling. He said he had some soreness remaining, but I think it was no more than any man seventy years old would have who would tramp over the hills hunting. He was looking fine and said that otherwise he was feeling very good.

I wish to report one more case. Some six months ago a representative of Boericke & Runyon, Mr. Kingstone, told me that Dr. Packard of Lowell, Mass., was having great success with radium bromide in diuresis. I had a patient, an old lady almost 70 years of age, who had been troubled seven or eight years and had tried quite a few specialists. Had spent six months with a specialist in Buffalo, and received no benefit. I tried every known remedy without benefit and was about ready to admit that I couldn't do any more. I made up my mind I would try this on her, and took a bottle to her home. After taking the remedy one week it apparently cured her, and she had no more trouble for four weeks. Then she took cold and had a relapse. I gave her another bottle which did her no good and, after taking two bottles, seemed to make her worse. Then I gave her the thirtieth and she wrote me she was getting better. I haven't heard of her since. She is away from home now. I couldn't get into communication with her. I have never tried it in skin troubles.

This case of Mr. Krebs, he was so grateful he was perfectly willing any physician should know the facts. This was an absolute cure through the use of radium. He had not taken any other remedy for six months, hasn't taken any since, and I think there are physicians here who have seen the case.

C. A. Potter: I am very glad to say that I can vouch for Dr. Zwetsch's statements concerning this patient Krebs, as he lives only half a mile, perhaps less, from the hospital at Gowanda. I saw the patient when he was absolutely helpless, and I see him every week now, sometimes two or three times a week, so that I can vouch for the statements that Dr. Zwetsch made. He has not overdrawn the picture in any way."

(William H. Dieffenbach, M.D., New York City, Verifications of Symptoms of the Proving of Radium Bromide, Transactions of the Homoeopathic Medical Society of the State of New York, vol. 47 (1912), p. 242-251)