

## **Guy Beckley Stearns**



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### **1911 - The Proving of Radium Bromide**

"One milligram of the 1,800,000 activity of pure Radium bromide was weighed out, and the trituration was begun with that amount. The provings were made from the 6x, the 12x and the 30x triturations.

A measurable amount of this active and powerful salt was present in each of these strengths, as was shown by the electroscope and the photographic plate. While taking the 6x the urine of the provers was rendered radioactive. All the experimenters developed symptoms, some of which persisted several weeks after discontinuing the drug. All of them experienced sensations which were characteristic both as to nature and location. The pains were located deep in the joints and were described as being in the articulations. They were of two kinds - sharp pains which came and went suddenly, or came suddenly and gradually wore away. Dull ache which came gradually and stayed with the prover a long time. The sharp pains changed place, and in some provers went from side to side. In two the right side was more affected than the left. Nearly all had pains in one or the other great toe joints. All had pains at the sacro-lumbar junction, deep in the articulation, and the aching was dull and severe.

All the men provers were very restless with the pains, and were compelled to move about. Motion aggravated the pains at first, but continued motion relieved them. They had great desire for the open air, and all the symptoms disappeared or were better on their going out of doors. These two modalities were absent in the women provers.

There was present a great desire to stretch the muscles, and the stretching gave relief. All developed great weakness of the lower limbs with languor. Some had numbness on crossing the legs. In most cases there was marked aggravation of all the symptoms from the latter part of the afternoon until after dinner. The general symptoms were better after eating in most provers. In two there was soreness of the muscles all over the body.

The foregoing symptoms and modalities were the first to appear in the proving, and were present in all cases. Invariably sharp pains occurred within twenty-four hours.

These pains are particularly significant when considered in conjunction with their frequent occurrence in the great toe joints, and confirm the very evident curative value of radium in gout and chronic rheumatoid conditions.

Its selective action in the lumbo-sacral region should prove useful in acute conditions where lumbago is a symptom.

The tired, weak sensation in the lower extremities, as the provers said, "from the small of the back down," was so characteristic as to be considered a keynote of the remedy. This was so pronounced as to make walking a great effort, though continued walking gave relief.

Going on to some special symptoms there occurred: Terrific headache over the left eye, going back to the occiput. This was relieved by warmth and aggravated by cold and pressure. Aside from the headache, however, cold was more agreeable than the warmth.

Dull frontal headache with a tight sensation. Headache from the occiput up over the vertex. One prover, three weeks after having stopped the drug, suffered from extremely dull frontal headaches.

In most of the headaches there was the marked late afternoon aggravation of the drug and relief in the open air. This last amounted in many experimenters to an air hunger.

Those headaches simulated the neuralgic and rheumatic types, never the gastric, and in this respect correspond to the general character of the action of the drug as already suggested.

In two provers vertigo was a prominent symptom. In one this developed after three weeks, and was brought on by rising or reading steadily. In the other, he awoke suddenly with a sensation of an electric shock through the body, followed for a day or two by severe vertigo, with tendency to fall to the left, necessitating walking with the left hand against the wall for support. The following general modalities were strongly expressed in this condition. Relief in the open air. Relief after eating and from lying. Worse when sitting or walking.

The physical cause of this vertigo was not apparent from any of the examinations made, though the symptom was distinctly an effect of the drug.

Mental symptoms were present in some of the provers, but usually developed some time after the physical. First came irritability and easy vexation. Then depression, discouragement and dissatisfaction. Apprehension, as though something would happen, with fear in the dark. Difficult concentration. In one of the women provers the depression reached a very distressing point, so that she would wake at night in fear, and desire light and company. Her sleep was restless, and she was troubled by dreams which would wake her, and she could not for some time be sure if they were real or not. These were always troubled; of fire, of attempting suicide, of physical exertion. Unlike most of the provers she was not particularly better in the open air, but obtained great relief from a bath.

The drug caused heaviness of the eyelids, and in one case a distinct ptosis, worse in the right eye, with lachrymation. This subject, after three weeks, had a yellowish thin purulent discharge from the eyes, which stuck the lids together and formed a yellow crust. In another case there was some irritation of the margins of the lids.

The respiratory organs were affected by rather violent symptoms. These began as rawness or soreness in the throat, which was worse when swallowing and relieved by cold drinks. After a day this was followed by a dry teasing cough caused by a tickling sensation in the larynx, which kept the experimenter awake at night. This was worse lying down, and soon after going to bed. After beginning to cough the subject couldn't stop. The tickling in the throat was very disagreeable and persistent. The open air relieved. With the cough was a distinct aversion to sweets. Two provers, who did not develop the cough, had a bruised sore sensation in the chest, in the region of the sternum, as though the two sides of the chest: were pushed together. In one of these, there was first a soreness of the throat, with a splintery sensation, relieved by swallowing cold water. The sensation of constriction was felt particularly about the heart and was very severe. The cough was so troublesome in one prover that it kept her awake several nights and had to be palliated. Spongia, Ignatia and Coccus cacti were given with little relief, but Rhus venenata stopped it at once. Rhus venenata, in fact, appears to be the best antidote for Radium, which is another significant point in relation to its gouty symptoms.

Although the cough symptoms were very severe, they did not appear to be due to any inflammatory state of the lungs, but to a laryngeal irritation. In only one case was there any expectoration, and this was where the irritation began with soreness of the throat, followed by a hacking cough and the raising of frothy white mucus, which soon became tenacious.

The digestive organs were somewhat affected. There was developed an aversion to sweets, and an empty, all gone sensation. One of the men provers had a craving for fresh pork during and after the proving.

In the intestines much gas formed, and there was some griping, the most characteristic point being relief from walking about and from passing flatus. There was decided sluggishness of the bowels, with retarded, though soft stools, or an alternate diarrhoea and constipation, with offensive flatus. The stool was clayey in consistency and sticky in one case. In the cases which developed diarrhoea the rectum was sore and excoriated during the movements.

The total effect on the digestive organs can be characterized as sluggishness, and appears to be incidental to the general depressing effect of the drug, rather than to any specific or selective relationship to those organs.

Some atony of the urinary organs was caused, resulting in slowness in starting the urine. The urates were increased in amount, and in most of the provers albumen was found in the urine. In one case a few granular casts were observed. The irritative action of Radium on the kidneys may be due to its direct irritating qualities during its excretion, for there was enough Radium in the 6x to make the urine radio-active, and there was enough in the 30x to affect the photographic plate. On the other hand, Radium may have a selective action on the kidneys.

The metabolism of the body was profoundly influenced, as was shown by an increase in the specific gravity of the urine, and an increase in the elimination of the uric acid derivatives. One of the female provers lost several pounds during the experiment.

The male sexual functions were at first stimulated, causing frequent nocturnal emissions and amorous dreams. Later there was diminution of sexual desire.

In the women provers the menstrual flow was more profuse and protracted than usual, also less painful. Their usual menstrual headaches were absent. All the women claim to have been much benefited by the proving in regard to their menstruation and their general health.

There were some decided skin symptoms. Some provers developed small red papules on the face and chest. One prover developed a similar eruption between the shoulders, which itched, worse in the early evening, and worse when undressing. This was better in bed and relieved by scratching. Another developed sensitive papules over the whole body.

An itching scaly eruption on the anterior surface of the thighs and the forearms was caused in another. The itching was better from warmth and scratching and worse from bathing. One of the provers who had worked for several years with the X-ray and with Radium emanations, had for a long time suffered from a scaly eruption on the backs of his hands which always troubled him by cracking and bleeding in cold weather. During the proving itching developed in this eruption, and it partly disappeared. A sebaceous cyst developed over the lower part of the sternum of another prover. Two of the provers observed great sensitiveness of their corns, and old bunions which had not troubled in a long time became inflamed and painful. This last symptom is quite striking, and shows the relation of the drug to the great toe joints and to irritated epithelial structure. Dr. J. T. Kent gave the 200th to an old gentleman on two different occasions, and several weeks after each administration a painless scaly eruption came out on the body, without subjective sensations, and this would exfoliate as bran-like scales, so that the sheets of his bed would be covered in the morning.

The effect on the circulatory system was that of lowered tone, as was evidenced by lowered blood pressure. The elements of the blood itself were altered, resulting in an increase of leucocytes to as much as 30% to 50% above the normal. This was confined to the polymorphonuclear neutrophyles, showing an increase in the protecting cells of the body. The small lymphocytes were decreased.

In the foregoing I have endeavored to select the most characteristic symptoms and modalities as they were presented by the provers. A detailed recital of the symptoms would be both tedious and confusing.

However, a thorough understanding of the drug can be obtained only by studying the complete record, which has appeared in the *Journal of the American Institute of Homoeopathy* and in the *North American Journal of Homoeopathy*.

The experiment was carried on with seven provers, four men and three women, and was due to the scientific spirit and initiative of Dr. Dieffenbach. Every prover was carefully examined before and during the proving, and observations were made on the urine and the blood. Dr. Copeland, Dr. Crump and Dr. Sayre assisted Dr. Dieffenbach in this task. My work was the lesser one of questioning the subjects and bringing out the modalities.

As far as it has gone this proving has been conducted as carefully and as scientifically as modern clinical methods will allow, and is in every way up-to-date. But it can only be considered a foundation, for with the limited number of provers many of the possibilities of the drug have only been hinted at. Clinical reports are needed also to confirm and fix the value of the modalities, some of which appear to be somewhat contradictory. These contradictions pertain to the aggravations and ameliorations from warmth and motion, and probably have to do with their relation to local and general conditions; e. g., some local conditions were better from warmth, while the general symptoms were better from cold.

The work has demonstrated in a way nothing else could accomplish how wrong is the idea of those who clamor for a boiled down *materia medica*. On the contrary, a record of every symptom is necessary for a true comprehension of the complete action of any drug. General characteristics are but the composite expression of the complete record of such symptoms as are grouped about some single function or part of the body, or of all taken together, and no symptom can be left out.

In this proving the characters of the symptoms, the appearance, weeks after the administration of the drug, of certain symptoms, and the persistence of other symptoms, show Radium to be a drug of very deep action, and bear out the experiences had with it in more material doses.

Its well-marked modalities should make it a remedy easy of verification."

## DISCUSSION.

Dr. William H. Dieffenbach : Mr. Chairman, as a preface to my short remarks I will say that two weeks ago, as a matter of interest, I took some of the triturations of Radium bromide and placed them upon the orange covering which enveloped a photographic plate (which again was enveloped in black paper) in order to test the action of homoeopathic triturations, to see what reaction we could secure with these preparations. We took the 6x, 12x in fair amounts, the 6x again in very small amounts, and the 30th in fair amounts. These were put upon the outside of this paper and placed in the dark room for ten days. At the expiration of ten days we developed that plate. That was developed yesterday (showing) and you see its action on the photographic plate; the 6th, 12th, 6th again, and even the 30th trituration showed an action on the photographic plate. For those who think that there is no medicine in the 6th or 12th or 30th x, I think it is a distinct proof that there is some definite material in a trituration of that sort.

I shall confine myself to a few verifications that have come to me since the publication of this proving, and will say that they are not very numerous, and I will not tire you with them.

Symptoms of the mind, the symptoms of depression, as an accompaniment of a general line of symptoms covering the drug, have been verified, and one patient whom I had treated, a case

of tuberculosis of the hip, who had vivid dreams of fire and a number of other concomitant symptoms. It occurred to me this being one of the symptoms which was very marked in proving Radium bromide, in fact, causing a burning as of fire on the skin and produces dreams of fire. This patient said she dreamt every single night of fire. I gave the 30th potency of Radium bromide, and after taking two doses she says she has no further dreams of fire. Whether they will recur or not I do not know. It was within the past month that I verified that distinct symptom. That was the only symptom on the mind that I verified.

Another symptom that occurs very frequently in surgical cases after laparotomy, from taking ether, is the dry, parched condition of the mouth and of the palate that these patients suffer from after etherization, waking up and complaining of this intense thirst and dryness. I found previous to the proving of Radium bromide that Nux moschata would help some of those cases. Since then I have had a chance to give Radium bromide 30x in two cases in which this symptom appeared after giving ether, and it apparently palliated that symptom of intense dryness of the palate and the mouth. That was quite a marked symptom and occurred in nearly all provings where Radium was injected into tissues and produced these symptoms in very pronounced manner.

I have not verified any of the stomach symptoms excepting the symptom of flatulence. We know that Lycopodium, Raphanus, Terebinth and Carbo veg. do not always stand us in good stead in cases of flatulence. I have one case in which I have attempted to find other symptoms besides persistent flatulence, and have helped that case with Radium bromide I am quite sure. Also in one or two cases of constipation in which, when the other symptoms corresponded, I have given Radium bromide, I believe I have found some distinct benefit in that particular condition.

In regard to the urinary tract it is a source of great regret to me seeing that we received so splendid a verification of the action of Radium bromide in rheumatic conditions that we did not make a quantitative test for uric acid. That was one of the tests that was omitted in making the urinary tests. We did not at that time know what I have subsequently learned that the Germans were using Radium very largely in the treatment of chronic rheumatic conditions. I noted these reports last January in reading one of the German journals. They were exploiting Radium in the shape of local compresses and injections: internally in the shape of Radium water for chronic rheumatic conditions, arthritis deformans and other chronic conditions that heretofore have been refractory. These conditions we could undoubtedly have shown greater scientific verification upon if we had made a test of the uric acid quantitatively. As it is, the urinary tests otherwise are fairly complete.

I have had a chance to prescribe Radium bromide in two cases of dysmenorrhoea, which I believe were benefited, and the dry, spasmodic, irritant cough which we are so frequently called upon to prescribe for I believe Radium bromide has done some good for. I believe the bromide feature of the radium there is practically intensified. If the statement of some of the European physicians is correct, that when making a solution radio-active we increase its medicinal action, that the ions found in the solution that way are rendered more active, there is a possibility that the bromine feature of the radium is intensified, and the dry spasmodic cough of bromine therefore will receive verification in this proving of Radium bromide.

Dr. Stearns has covered the symptoms of the blood. I have given Radium bromide in one or two cases where there was leukocytosis and failed to find any distinct improvement. An important point which might be mentioned in this paper is the fact that six X-ray workers in Europe and one man who worked in a laboratory where they manufactured radium from the pitch blonde ores, all seven of these individuals developed lymphatic leukemia and succumbed to it. Those of you who are familiar with X-ray literature know that leukemia has been palliated by means of the X-ray. It may be that the use of radium in potency will be

beneficial in that intractable disease. Inasmuch as these men who have worked with and have exposed themselves to the X-ray for many years have developed lymphatic leukemia, and one worker in radium has developed it, we can consider the latter as part of the proving of this drug.

When we come to the rheumatic symptoms, to the action upon the back, upon the muscles, upon the extremities, we have in this proving 135 distinct symptoms secured from seven or eight provers. All of these individuals who took the powder, whether the 6th, 12th or 30th, developed these pains which the doctor has emphasized were worse on motion but would eventually, after a great deal of exercise, wear off. They all were anxious for fresh air, had an air hunger, and I believe that is quite a characteristic. In prescribing Radium bromide on distinct symptoms we have a few of these distinct modalities on which we can hang our prescriptions. I have personally verified that in a number of cases that have come to me for other treatment, by giving this incidental to the other treatment, and I have found possibly quicker results than I had previous to this. I have also received several letters from physicians who have used radium bromide in the 12th potency, who have reported distinct aggravations in some of their chronic cases, saying they thought the medicine was too strong. One patient refused to take the medicine, saying it made him worse and that he got distinct aggravations. It seems to me from the test I made with this photographic plate that we still have with the 12th x a material part of the radium there to act on this photographic plate through these two sheets of paper, and, therefore, personally, I shall in the future favor the giving of it in much higher potency than the 12th. It seems we must go higher in order to avoid a distinct physiological effect and to secure the dynamic or homoeopathic effect.

The repetition of the dose, as I talked it over with Dr. Stearns today, is a matter of future development. It seems to me that in giving Radium bromide in the higher potency a repetition should not be given until the action of the remedy has worn off. Being a new remedy we do not know exactly when this occurs, but it seems to me that a frequent repetition is a thing that should be avoided. Perhaps one dose a day, or one dose a week, would be sufficient in some chronic cases that require a long time for a change.

On the skin I have received a number of verifications. Dr. Perkins, of Princeton, N. J., wrote me that he had a case of psoriasis of eight years' standing that he gave Radium bromide to, and he claims that after a course of treatment with the 12x remedy that case has improved so that there is not a single scale left. Of course, we all know that psoriasis has a tendency at times to spontaneously improve and disappear, so that this is not an absolute case of correct verification. However, he makes this statement, that the patient had psoriasis for eight years; he gave Radium bromide on the indications he found, and the psoriasis has disappeared. If the rest of the members will make similar tests of Radium bromide, we may get more verifications than that of Dr. Perkins. It is certainly an interesting case.

In conclusion, I wish to say that in my judgment we have in this remedy an addition to our *materia medica*, particularly in the treatment of rheumatic and gouty conditions, as the proving has impressed me. Of course, we may find it indicated in almost any other condition, but the main impression I received as a prover myself, and by associating with those who proved it, was the intense pain in the joints, pain in the muscles, pain in different parts of the spine, which this proving produced, and I believe it will prove a sovereign remedy in rheumatic and gouty conditions in addition to *Rhus tox.* and other remedies with which we are more familiar."

(Guy Beckley Stearns, M. D., Assistant Professor of *Materia Medica*, New York Homoeopathic Medical College and Flower Hospital, The Proving of Radium Bromide, *The Chironian* vol. 28 (1911-1912), p. 277-287. Read before the Homoeopathic Medical Society of the State of New York, Oct. 11, 1911)

## **1911 - Elaps corallinus**

"The following case is presented as a verification of elaps:

The patient, a woman of 62, is of medium complexion and very stout. She gives a history of normal health until about six years ago, when she was treated for diabetes and heart trouble. After prolonged treatment she was improved so that on a strict diet she remained fairly well until about two years ago, when sugar again appeared in her urine. Appropriate remedies and a readjustment of her diet cleared up her symptoms until a little more than seven months ago, when she first came under my care.

The physical examination revealed nothing abnormal excepting extreme obesity and a blood pressure of 180. She had gained 30 pounds in the last year. The urinary examination was as follows: Total amount in 24 hours, 64 oz. High acidity. Sp. gr. 1,032. Albumin negative. Sugar, 1.47%. Very large amount of uric acid crystals. This last feature was the most marked that I have ever seen in any specimen of urine.

Her symptoms were as follows:

Ill feeling and tired, with a tired back all the time. Constantly drowsy and forgetful, with inability to concentrate her mind. Waking in the morning with dry throat and tongue, and tongue so stiff could hardly swallow. Throat sensitive to the collar. Difficulty in taking a deep breath. Very easy perspiration, though used to perspire none at all. In the morning, because of the dryness of the throat, gargled with listerine, and at first expelled lumps of black mucous. Constant desire to hawk, with hoarseness. The right side of the throat most affected. Appetite poor and inability to find any food which was appetizing. Much fermentation with some eructation. Aversion to meat and occasional great craving for candy. Flashes of heat from below upward, followed by perspiration on the forehead. Urine retained with difficulty. Craving for air and discomfort in a close room. General aggravation after sleep and in damp weather.

There was nothing particularly suggestive for a remedy in the pathology of the case, nor could I make any further reasonable change of diet.

A study of the subjective symptoms suggested the snake poisons and comparisons, with the aid of the repertory, showed elaps to most nearly cover the case.

The 30th was given four times a day for three days and then placebo was substituted.

Improvement commenced at once and in six weeks the last trace of sugar had disappeared. The same was true of the uric acid crystals. The blood pressure gradually reduced to 160.

Four months later she reported a return of many of her symptoms and her urine showed 1% of sugar and a large amount of uric acid crystals. One dose of elaps 30<sup>th</sup> was given, and this was followed by immediate and steady improvement, the sugar disappearing in three weeks. A few days after the prescription she had a severe attack of diarrhoea, which was relieved by elaterium, and she has had no medicine since.

During the first three months she lost 16 pounds, but gained 8 pounds during the fourth month.

Since then she has lost 8 pounds. The only difference she has made in her former regime has been in eating more fruit, which she has craved and which, for a long time, she had denied herself.

The uric acid crystals have not entirely ceased to deposit and during the last few weeks much oxalate of lime has appeared, but she complains of none of her former symptoms and is kept under observation for further developments.

NOTE. - January 1st. Since sending the above to the editor, the patient has reported and called my attention to the fact that during the last few weeks all the enlarged joints on her fingers have become reduced to normal size.

These nodes have deformed her fingers for several years. This reduction has taken place during the time that the uric acid deposit in the urine has been replaced by calcium oxalate.

She also reports never having felt better in her life."

(Guy Beckley Stearns, M.D., Elaps Corallinus, The Chironian vol. 28 (1911-1912), p. 338-340)

## 1916 - Radium Bromide

"The sole object of a remedy should be to increase the reaction of the body against disease. For prescribing, the qualities which characterize the reaction caused by a drug are not the physical nor the chemical nor the obscure physiological ones; they are the effects which a child can describe or its mother observe where the child has been poisoned by a drug. The other qualities are important but not essential.

The chemical and physical properties of radium are intensely interesting; so striking are they that it is difficult to force them into the background while studying radium therapeutically. Its spectacular qualities not only obscure its essential characteristics but tempt the careless to try it on the slightest clinical indications.

Cases of arthritis, neuritis, psoriasis, enuresis, arteriosclerosis and thus poisoning have been reported cured; most of its verifications are of arthritis. Many verifications of symptoms have been reported and many of the clinical cases have been very striking. Few, however, have been linked up in such a manner that one can determine, from the reports, on precisely what indications the remedy has been prescribed.

Of cases of chronic arthritis reported by His, where radium was used empirically, 2 ½ % were cured and about 47 % were benefited. It causes pain in all the provers and these pains are located both in the muscles and the joints; to understand the remedy, we must study the character of the pains, their predominant localities and their modalities. All parts of the body are affected, but the great toe joints and the sacrolumbar regions are the most important seats of pain. The pains are of two predominant types, sharp pains (in some cases described as lightning like) coming or going suddenly, or coming slowly and going gradually. These are apt to change places and in some cases go from side to side. The other type of pain is a severe, dull aching, ranging from a pain situated deeply in the joints, to an aching all over the body, which torments the patient to a restless moving about all night, leaving him exhausted next day. This type comes on gradually and slowly wears away. Often the pains are hard to describe.

Throughout the proving appears relief from continued motion, though often motion aggravates at first. Pressure relieves and warmth is disagreeable. Radium causes a marked desire for and relief in the open air. It should be noted that there is great weakness from the lumbar region down, a sort of paretic languor and a great desire to stretch the muscles, which stretching gives relief. Sometimes nothing relieves the pains; they simply gradually wear away. Although local heat is disagreeable, there is marked relief of pains and other symptoms from a hot bath. Vasomotor disturbances occur so that some experience a sensation of internal chilliness, relieved by warmth, and others have a sensation of heat all over, so that they have to throw off the clothing. Another expression of this same type is a feeling as if the whole body were on fire, with the sharpest kind of needle pricks. In the provings there is no record of any actual increase of temperature. Many of the symptoms appear late in the afternoon and continue until after supper. Most symptoms are better after eating.

A most striking unintentional proving was made on a chauffeur of 45, who was given a 12x tablet at night and another next morning, for lupus of the nose. He became so dizzy he "could not stand up or do anything." Every movement made him dizzy and he was "so weak" his muscles "just gave out." It was two weeks before he was normal, when the experiment was repeated. This time the symptoms were much more intense. He became so weak and dizzy that he could not stand and had to go to bed. When in bed the vertigo left, but his legs, arms and neck felt hard and brittle, as though if he moved they would break. He had no pain and was all right when lying still, but if he got up he felt, as he expressed it, "queer." It was three weeks before he was able to do his regular work.

So, to the other sensations, we must add intense vertigo, with weakness and a feeling as though the muscles would break if they are moved. The peculiar dis-equilibrium of the radium atom seems to be equaled by the lack of equilibrium it causes in human beings, for vertigo is a marked symptom: "so dizzy had to walk with the hand against the wall," "tendency to fall to the left," are expressions used by the experimenters. This symptom is entirely relieved in the open air and when lying down, but remains when sitting, and is brought on or increased on rising.

A woman of 65, with high blood pressure but no kidney lesion, had, on two successive mornings, severe vertigo, worse from motion, better in the open air. She had to support herself against the wall. Radium bromide 200th relieved her in a few hours. She had several circular red, scaly spots that itched maddeningly on the calves of her legs; these were not helped by radium, but were cured by tellurium. Probably the relief of the vertigo, although a verification, was only palliative, as tellurium causes vertigo in the morning and was probably the remedy from the start. To sum up these generalities, note the peculiar pains and their locations, especially in the toe joints and the lumbosacral region; paretic weakness from the lumbar region down; persistence of the pains gradually wearing away; aggravation from motion but relief from continued motion; general aching with restlessness; relief from hot bath; amelioration from pressure; aggravation in the late afternoon until after supper; relief after eating; overwhelming vertigo; marked craving for and relief in the open air. Remember that all the foregoing appeared early and characterized the first attempt at reaction. But many organs and functions are disturbed and a knowledge of them must enter into our understanding.

Headache is a prominent symptom. Like the pains in the muscles and the joints, there is in the head two types - a dull pain anywhere from a simple dullness to an intense, dull, incapacitating ache. This type is usually in the occiput or forehead, at times in the vertex. These headaches are better in the open air, better from cold, better from pressure and aggravated from lying down. The other type of headaches is characterized by sharp pain which sometimes becomes throbbing. Usually beginning in the right temple or over the right eye and extending backward to the occiput, or up toward the vertex. Sometimes it is on the left side; in one prover, pain began in the occiput and extended up over to the right eye. The aggravations and ameliorations are the same as described before, although in one case warmth relieved and pressure aggravated.

The muscles of the eyes are affected by the same paretic weakness as are those of the extremities and ptosis occurs, so that sometimes the eye has to be opened with the fingers. The right eye is more affected than the left. Sharp pains occur over and in the eyeballs. Radium causes the lids and conjunctiva to become inflamed and irritated, with a feeling of dryness. There is also a sensation of soreness and burning. In one proving, the right eye was inflamed and a yellow discharge formed that ran down the nose and formed yellow crusts.

The nasal mucous membrane becomes dry and hard crusts form in the nostrils. In the lower respiratory tract marked symptoms develop. It causes irritation and soreness of the throat, with inflammation beginning on the right side. This is followed in a day by tickling in the

larynx, which causes a severe dry, spasmodic cough. This is worse at night and when lying down, and it is impossible to suppress the cough after it once starts. It is relieved in the open air. The irritation is in the larynx and the suprasternal fossa, as though dust was in the throat. Dryness appears to be a characteristic of radium bromide, as appears from the symptoms in the eyes, nose, throat and lungs. It causes rawness and dryness of the throat and the hacking of small amounts of white stringy mucus. The throat symptom is relieved by a drink of cold water and swallowing. It causes a sensation of a lump in the throat. The cough is irritated by smoking and from being indoors; better out of doors and after eating. Expectoration is usually absent, and if present is scanty and stringy, yellow or white. Note that there is a consistency in the character of yellow discharge from the eyes, the yellow, stringy discharge from the throat and the crusts from the nostrils. The cough does not seem to originate below the larynx, though there is a constriction of the chest that centers about the heart and is accompanied by palpitation and sharp pain. The same character of dryness is observed in the mouth. The sensation in the mouth is dry and parched and one must sip cold water to moisten the mouth. The breath feels hot. The tongue becomes coated a bluish white and is thick and feels swollen, so that speech is difficult. This last is probably due to the paretic state of the muscles. The teeth become painful and feel too long. In one prover a gum-boil formed on the lower jaw back of the molars and she could not talk on account of the soreness and swelling. The month has a metallic taste.

The digestive function is disturbed as shown by the coated tongue, also by the symptoms related to the appetite, stomach and bowels. Radium causes a craving for fresh air, lasting for several weeks. Dr. C. M. Boger says this symptom is occasionally observed in persons who later have consumption. Aversion to sweets is marked, also a mild craving for sour. Like many of the antipsoric remedies, it causes an all-gone, empty feeling in the stomach. This is relieved by eating, but a small amount of food satisfies. Much gas is formed throughout the digestive tract. There is an eructation of tasteless gas. The sum of its effects on the digestion is sluggishness. Lower down, gas rumbles around in the abdomen and causes sharp, colicky pains. These pains are better when the flatus passes or the bowels move. Pressure, bending double, and heat also relieve. Much flatus passes without pain, at times quite offensive. McBurney's point is the seat of sharp pains which come and go quickly. A physician, after one dose of the 30th, suffered for three months with pain in the epigastrium, like a bruise on the second day. He lost fifteen pounds in these three months and in two years has not regained his former weight. At times, griping localizes around the navel.

The stools are markedly changed in character, but the effects are so varied as to be difficult to sum up. It causes both constipation and diarrhea, which may alternate. The soft stools vary in different provers, from clay color to watery brown or yellow. The points that stand out most prominently are that the stools are apt to come with a gush, even though normal in character, and are accompanied with much flatus and the passage of the stools relieves all abdominal and rectal distress. Sharp stitches occur in the rectum. Upon hearing the abdominal and stool symptoms, Dr. Boger remarked, "Radium must be a great gout remedy."

The muscular effects of radium are manifested in the bladder, causing great difficulty in starting the urine. Clinically it has cured enuresis, a condition naturally following retention through muscular weakness.

The sexual organs are disturbed both in men and women. In men emissions are frequent with dreams. The effect on women provers was to make the menstrual period easier and stop the usual monthly headache. It causes delayed and intermittent menstruation. It causes also a white, cheesy leucorrhea.

The skin hardly escapes a remedy of the magnitude of radium bromide. It causes macules, papules and pustules, which itch and burn, are aggravated from scratching, and better in the

open air. It causes a general scaly eruption, with desquamation of large amount of dry, bran-like scales without sensation. Sebaceous cysts develop under its influence. Very significant is its effect in causing bunions and corns to become inflamed and tender.

The last to be studied, because appearing last in the proving, are the mental symptoms. There is irritability and touchiness, which tend to develop into depression. Great apprehension as though something was going to happen, characterizes the depression. Provers get blue and discouraged and dislike to be alone. The desire to have someone near is particularly marked. Fear of being alone in the dark. The mental state projects itself into the dreams, which are vivid and troubled. "Dreams of fire, and when waking it is hard to realize that she has been dreaming." Bad dreams at night and low-spirited by day.

Reviewing all these local symptoms, note how the general modalities already mentioned appear. In addition, the right side is affected more than the left, as is shown by the effect in the right eye, the right temple, the right side of the throat, and in some cases pains are more in the right side of the body. Cold usually ameliorates and warmth is not agreeable, though warm bathing gives marked relief. Dr. Boger reports a case of neuritis in which burning pains relieved by a hot bath were his indication. All abdominal symptoms and some general ones are relieved by passage of gas up and down and by defecation. One prover, after the 30th had pain in an old empyema scar every time the weather changed. Even now, two years later, always before a storm he becomes exhausted and has bruised pains deep in the joints.

Of less specific interest as therapeutic guides, but of general interest as showing the ultimate result of the disturbances of reaction, are the tissue changes induced. Albumin and casts appear in the urine, showing that either the kidneys are deranged through the effects of the radium as it is excreted, or that the radium has a specific action on these organs. The urine was radioactive from the dilution used in the proving, so that the kidneys may have been irritated by the drug.

A patient, 39 years old, had for years excreted an excess of uric acid. For a year her blood pressure had steadily gone up from 110 to 185. Albumin and kidney epithelia appeared in the urine, but no casts were found. Lameness of the right knee developed at first, made better by walking and later aggravated by use. Slight puffiness and heat of the knee. Characterizing symptoms were pain like a needle in the right hip joint and pain like a string down the right sciatic nerve. Indescribable pains in the lumbar region and the right side of the neck and shoulder. Hopelessness of recovery and of the future. Too frequent urination and sudden urging. Occasional diarrhea attacks, especially if emotions were disturbed, sudden gushing; skin dry and the hair becoming gray within a few weeks. Brown spots on the skin. Awkward and drops things; flatulence; frontal headache in the morning as though the forehead were loaded. All symptoms were worse in the late afternoon, and hot weather prostrated. Everything was better in the open air. Lycopodium relieved the bladder and bowel conditions. This was followed in a few months by radium bromide. Marked improvement of all other conditions occurred for several months, when an acute cold developed causticum symptoms, which remedy appears to be finishing the case. The kidneys are now normal, the lameness is nearly gone and the blood pressure is down to 125. Note the sequence of lycopodium, radium and causticum.

It causes a marked increase of the nitrogenous excretion of the kidneys and loss of flesh, demonstrating its profound effect on metabolism. It lowers blood pressure, which is consistent with the muscular weakness and let-down conditions which it causes. Blood changes are very interesting. It causes a marked increase in the type of blood cells that attack and destroy bacteria. Undoubtedly to this quality is due its effect in causing gum-boils and pustules.

All verification should be reported, not as isolated symptoms, but as complete symptomatic and clinical pictures.

Its abdominal symptoms, its effect on the joints, especially of the great toe, its irritating effects on bunions, and its upset of nitrogenous balance all point to its relation to gouty and chronic rheumatic conditions.

Its loss of flesh, its craving for pork, and its prostrating effect link it with the beginning of chronic wasting diseases, especially tuberculosis. I verified it in a case of incipient tuberculosis of the right apex in a woman of 42. She had not been well since a hard cold two years before, and a recent miscarriage had lighted the latent infection. Her urine showed low elimination and her blood an increase of leukocytes. Systolic pressure 100.

She was mentally and physically prostrated, was worse late afternoons, and could not stand the least hot weather. She had pains all over the body which shifted about and made her restless. Stiffness of the muscles and pains that followed the nerves. Tired weakness, though if she walked in the open air she braced up; vivid dreams and apprehension. Pulsatilla and lycopodium failed to help. After sulphur, her temperature, which had been subnormal mornings and normal evenings, became normal mornings and one or two degrees high afternoons. Otherwise no change. Under radium bromide in ascending dilutions, beginning with the 200th, she steadily improved. A year later no evidence of the lesion could be found.

Skin diseases come under its influence, especially seborrheas and dry scaly eruptions. The fact that it makes scar tissue sensitive hints at its relation to keloid and perhaps to cancer. Von der Goltz says it is indicated in cancer to arouse reaction, much as sulphur does in sluggish reaction in other conditions.

Acute conditions accompanied by much pain such as grippe, inflammatory rheumatism, neuralgia and neuritis, fall within its scope. It is related symptomatically to rhus tox and rhus radicans and often cures where these help but do not hold. Intractability seems to be one of its keynotes in rheumatic conditions. Digestive symptoms and modalities relate it to lycopodium and pulsatilla. Its catarrhal symptoms are like kali bichromicum and kali carbonicum. It resembles causticum even more closely and complements it.

There is a variability about the action of radium, in that it affects different people differently, e. g.: in one, there is a marked aggravation before a storm and in wet weather. In my verifications, this has been absent, but there has been intolerance of summer heat. The chauffeur prover had no pains, but only weakness, a stiff feeling and vertigo. One young man prover simply developed a frontal headache with no modalities.

This variability makes it a hard remedy to understand. Low potencies should not be used. Dangerous aggravations have occurred from the 30th.

## DISCUSSION.

*Dr. Dieffenbach, New York:* I would like to compliment Dr. Stearns upon his arrangement of this proving. It was his close questioning of the provers that helped us to give what has been published. Since the publication of this proving about five years ago, I have received many communications from physicians, some expressing their satisfaction with results achieved, and others expressing disappointment. It would seem that a number of physicians, hearing of the use of radium in cancer, used it internally and as a local application, hoping radium would cure. This is an unfortunate deduction. If, as homeopathic students, they had consulted the proving, they would have seen that in no case had we stated that this was a cure for cancer. Condemnation of radium in its use in this lesion was not just when applied in this manner. Radium must be applied in crude, massive doses if its effects are to be noted upon local tissue growth.

Dr. Stearns has emphasized the action upon the skin. I developed a number of small swellings, sebaceous enlargements, irritability, burning of the skin. That was the extent of tissue changes I noticed in my own case, and I had the heaviest dose in the 6x. It shows an action upon the skin, and the possibility of some form of hyperplasia should be borne in mind. In my own case, the proving removed the results of an old x-ray dermatitis which had persisted for years.

The effect of radium in rheumatic and gouty conditions is something that gave us a good deal of pleasure when we consider that the old school is now busy on the subject of radium in rheumatism. They claim that a large percentage of cases of arthritis, rheumatoid arthritis, gouty arthritis are cured by radium in hypodermic doses, or taken in the form of capsules in a very weak preparation of the salts. When we made the provings there were over one hundred and twenty-five symptoms referable to the nerves, muscles and joint involvement of a rheumatic character. A number had suffered backache. Three of the provers had distinct lumbago. Others had pain in the muscles. Others' symptoms referred to neuritis and rheumatism. Thus we have a definite corroborative list of symptoms indicating the application of this remedy to rheumatoid conditions. But we must not consider it a specific. As specialists and therapeutists we must select the cases in which the therapeutics will fit. First we must know the symptoms. The radium bromide patient is hungry for air. In some provings they want to open the window and get air. That is a cardinal symptom, and it can be explained on a physical basis. Radium is the greatest oxydizing agent we know, therefore this craving for oxygen is a symptom which we can verify. The pains are better from exercise and gradually wear off. The action on the kidney and blood, the objective symptoms, have been interesting. Five provers developed albuminuria. We made preliminary tests for a week. Some developed hyaline and epithelial granular casts. They developed symptoms of nephritis. One man claims he is not well yet. In cases with lowered elimination of solids, radium increased the solids markedly, showing that catabolism was increased. The blood work, which was conducted with a great deal of care, showed some contradictions. There was leukocytosis in some cases, and leukopenia in others. But every one of the provers in whom the blood work was done, had an increase of polymorphonuclear neutrophils, the protective cells of the blood. All these "pollies," so called, were increased, indicating that something had taken place to rouse the protective agents of the blood, and their fight on radium produced this peculiar reaction.

These objective symptoms, which in former studies have been neglected, can be utilized undoubtedly, or subjective symptoms may lead to the selection of this remedy.

The mental symptoms were also verified. We had one report about which we hesitated. The prover dreamed of fire, and her skin that night was hot. It is possible the radium produced that symptom. Dr. Stearns suggested that it be left in the proving because it was so unusual. Shortly after that I had a patient that curiously enough gave me that symptom. She said, "I have had restless nights, and I dream of fire." I gave radium bromid 30th, and she came back and said, "My mental symptoms disappeared."

As a whole, the proving has met with a good reception by those who have studied it. I especially call your attention to it in rheumatism and gout, and ask you to differentiate it from rhus tox, bryonia, and other rheumatic remedies.

*Dr. George Royal, Des Moines, Iowa:* You know there are two groups of symptoms which apply in the treatment of all cases. Besides those coming from the prover, I am sure that the verified symptoms are the most important ones. Then, again, our essentials of a symptom should be taken into consideration, especially location. In deciding between rhus and radium, I have found that if the former is indicated, the sheaths of the muscles are affected; whereas, if the latter be indicated, the periosteum and the bone itself are affected; and when, as in the case

cited, the symptoms are almost identical in the two patients, I decide by making sure which tissue is affected.

*Dr. Grimmer, Chicago:* This excellent paper and splendid discussion by Dr. Dieffenbach ought in some way to be given great publicity. It shows an accurate method in studying drug action. I have verified radium in one case of rheumatism in which the joints chiefly were involved. The patient had the modality of relief from motion. Rhus palliated, but succeeding potencies failed, and radium promptly cured the case.

*Dr. Dieffenbach:* This modality that Dr. Grimmer spoke of, "relief from motion," is quite marked. After a patient moves around, the improvement is gradual. The pain will stop and return again when the drug is given the second time, indicating that the drug was producing the pain, and the increased elimination from exercise reduces the pain. I would also emphasize Dr. Royal's remark, that the drug has marked action on the joints producing and curing many cases of arthritis.

*Dr. Krauss, Boston:* Dr. Stearns has presented a paper that might be taken as a model for *materia medica* men to follow. It is an excellent paper, and it has been a pleasure to listen to it. I have used radium in one case. It was a case of chronic nephritis, due to arteriosclerosis, rather than to any other cause, with which there was connected a distinct neuralgia of the face. I believe radium is good for overcoming pain. We have learned from this paper and from Dr. Dieffenbach's discussion that we should not jump at conclusions, but that we should prove all our drugs first on healthy human bodies, before we apply them to diseased bodies.

*Dr. Anna Johnston, Pittsburgh:* At the 1911 meeting of the Institute while listening to Dr. Dieffenbach read his paper on "The Proving of Radium Bromid," I thought of a patient of mine whose symptoms seemed to be similar to those produced by this remedy. He was very susceptible to erysipelas following colds. The next attack that he had I prescribed radium 12x. He recovered quickly and has not had an attack since.

*Dr. Stearns* (closing the discussion): Dr. Dieffenbach should have the thanks of the Institute for the generous manner in which he has given this remedy to us."

(Guy Beckley Stearns, M.D., New York City, Radium Bromid, *The Journal of the American Institute of Homoeopathy* vol. 8 (1916), p. 1123-1132. Bureau of *Materia Medica* A.I.H. 1915.)