demonstrated, and, in the next place, because they have been superseded by a more active medication, that of the bromides. I shall not, then, dwell on all the numerous formulæ of potions, syrups, pills, ptisans, suppositories and lavements of supposed anti-hysterical virtues,[1] for which I refer you to your ancient formularies; but before passing to the bromide treatment, I desire to say a few words about valerian, which still enjoys a certain repute in the treatment of hysteria.

Valerian, the officinal portion of which is the root, is administered in infusion, in tincture (the ammoniated tincture is perhaps the best preparation), in the form of valerianates, and especially of valerianate of ammonia. For my part I have little faith in the therapeutic action of these valerianates, and finish what I have to say of this medicament by adding that the pills of Meglin, so much prescribed for nervous disorders, contain a notable quantity of extract of valerian.[1]

Who says hysteria, says bromide, and at the present day there is not a hysterical person but has taken bromide. The bromide of potassium is the most often employed, but you may also use the bromides of sodium and ammonium in combination with it, constituting solutions of the mixed bromides, of whose effects Charcot has spoken so highly. Here is the formula which I habitually use: ℞.—Bromide of potassium, bromide of sodium, bromide of ammonium, ää x; water ccl.—M. Signa.—From a dessertspoonful to a tablespoonful night and morning.

I do not intend here to enter into the details as to the physiological action of these bromides, of which I shall have more to say when I come to the treatment of epilepsy. What I wish now to impress upon you is that these medicaments are among the most powerful depressants of the cerebro-spinal axis, and that it is owing to them that we can control the exaggerated manifestations of the nervous system. If we add that the bromides allay genital excitation, you comprehend all the advantages which may be derived from this precious remedy in the treatment of hysteria; at the same time I am far from affirming that the bromide medication is to be applied indiscriminately to all cases of hysteria, and it is because abuse has been made of this medicament that we see to-day certain physicians maintaining that it is rather detrimental than useful in the treatment of hysteria. This is by no means the case; only here, as for other medicaments, it is necessary to know the indications and contra-indications for this bromide treatment. Moreover, we must not fail to keep in mind that whatever may be the relationship between hystero-epilepsy and epilepsy (and some pathologists affirm a very close relationship), there exists, from a therapeutical point of view, a great distinction between these two affections. In fact, while epilepsy is tributary to the bromide medication,

[1] This is the formula of Meglin's pills called compound pills of hyoscyamus and valerian.

℞. Alcoholic extract of hyoscyamus,
Alcoholic extract of valerian,
Oxide of zinc, ää 10 grm. (or 3 ijss.)

M. S. Divide in pil. No. cc.

this same treatment has never effected a cure of the attacks provoked by hystero-epilepsy.

When the hysteria is accompanied by insomnia, excitement, and, in particular, genital excitement and much agitation, moreover, when the patient is of robust frame, the bromide will give admirable results. On the contrary, when your patient is feeble and anæmic, manifesting her neurosis by gloom and tears, and the nerve-centres are depressed in their action (there being no genital excitation), the bromide can do nothing but harm. The great inconvenience of the bromide results from its depressant action on the nervous system, and patients submitted to this treatment experience such a physical and mental torpor that it is difficult for them to apply themselves to their ordinary tasks.

The acne eruption which often follows the continued use of bromide in large doses is a serious evil, especially to fashionable young ladies, who strongly object to see their faces disfigured with this rash, and sometimes refuse the remedy altogether. I know no means of preventing this bromide eruption, which results from the elimination of the bromide by the skin. I know that it has been claimed that the internal use of arsenic will prevent the eruption, but I have often given it for this purpose with no result whatever.

As for the dose, this varies according to individuals, but, as a guide, you ought always to have recourse to an examination of the reflex sensibility of the velum palati, and your doses should be large enough to obtain, in most cases, anæsthesia of the pharynx. By way of caution, I would advise you not to give the bromide for a great length of time, and to occasionally suspend the treatment. For your guide, you have only to follow the evolution of the nervous manifestations. In most cases these manifestations are produced about the time of the catamenia; it is before, during, and after these periods that you ought to administer the bromide, and in such a manner that there may be in each month fifteen days of treatment and fifteen days of rest.

Beside the alkaline bromides, other bromides have been recommended, such as bromide of zinc and bromide of camphor.[1] The latter has been much vaunted these late years, but its action is very uncertain, and it has no efficacy except in cases of genital excitement; as for bromide of zinc, this preparation, little employed in this country, has been highly spoken of by Hammond, of the United States, who advises it especially in epilepsy. Opium plays an important part in the treatment of hysteria, and like bromide, has its advantages

[1] The bromide of camphor ($C_{10}H_{15}BrO$), was discovered and described by Swartz in 1862. It is obtained by heating in sealed tubes a mixture of one part of camphor and two of bromine at the boiling point. When it is pure, bromide of camphor presents itself in the form of transparent prisms. Its taste recalls that of camphor and spirits of turpentine. It is insoluble in water but very soluble in alcohol and ether; it melts between 76 and 77° C., and boils at 274°. Bromide of camphor is administered in pills and in capsules, in the dose of 50 c. g. to two grammes in the twenty-four hours.(*a*)

(*a*) Deneffe On mono-bromide of camphor. (Presse Medicale Belge. 1871.)
Bourneville On the therapeutic employ of bromide of camphor. (Progres Medical, 1874-5-6.)
Petrovitz, On bromide of camphor (th. de Montpellier, 1875.
R. Lawson, Practit, 1875.
Pathault On mono-bromide of camphor (th. De Paris, 1877).

and disadvantages. It was my master, Bernutz, who, after Gendrin, extolled especially the opiate medication. He administered laudanum in the dose of two drops twice a day, and gradually increased the dose till forty drops were taken in the twenty-four hours. This treatment is mainly applicable to the asthenic forms of hysteria; I believe it useless and dangerous in the sthenic forms, and you plainly see the indications for the opium treatment are directly opposite to those for the bromide treatment, for opium has an exciting action on the nervous system, while bromide is depressant. Unhappily, this treatment by opium has another disadvantage, in the large doses which one is compelled to attain in these cases, and many hysterical patients become morphomaniacs. In order to avoid these disadvantages, it has been proposed to substitute chloral, but here again you encounter serious inconveniences, for the continued use of chloral in doses gradually increased is very detrimental.

This question of dose in neuropathic patients is of the greatest interest; hysterical subjects present, as Huchard has well said, *a veritable therapeutical ataxia*. Sometimes they are poisoned by extremely small doses of certain substances, and sometimes they experience no therapeutic effect from really enormous doses. It is well to bear this fact in mind when called to treat a hysterical person. Do not forget, moreover, that there exists from the point of view of medicinal treatment, a moral influence of a direct and positive kind, and that here you will have occasion to witness the triumph of pills of *mica panis*, of potions of the extract of dandelion; in a word, of all those preparations which act on the imagination alone. The history of medicine abounds in cases where, owing to the assurance with which they have been prescribed, these pills and these potions have had the most signal curative efficacy in neuropathic individuals.

By the side of pharmaceutical treatment, and even above it, is placed balneotherapy, which comprehends three modes of application; baths, hydrotherapy, and mineral waters. Warm baths, and particularly prolonged baths, have a very happy influence in the treatment of nervous disorders, especially in the period of excitation, and Bernutz has greatly vaunted their effects. These baths ought to be of from one to two hours' duration, and the water all this time should be kept at the same temperature. The therapeutic virtues of these baths are augmented by adding infusions of aromatic plants, as melissa or valerian, of which medicated baths Beau speaks in high terms. The good effects derived from these medicated baths are explicable, not on the principle of cutaneous absorption—the skin with its epidermic covering does not absorb medicinal substances contained in baths—but entirely by the introduction through the respiratory passages of the odorous and volatile principles of the herbs employed. It has, as you are aware, been maintained that in order to obtain the therapeutic effects of valerian it must be administered, not by mouth but by inhalation.[1]

Hydrotherapy plays an important part in the treatment of hysteria; it

[1] Pomme has greatly extolled prolonged baths in hysteria; he regrets that the day is not more than twenty-four hours long, because, that now, he is not able to give them as long as he would like.

constitutes, with the bromides, the grand basis of the therapeusis of this disease, but it is important that you should know how the cold water should be applied. It is advisable to employ douches at the beginning of the treatment, but always tempered douches. The effect on the nervous system of cold water is sometimes so violent in hysterical patients, as to determine such a state of suffocation that after enduring the first cold douche, they obstinately refuse to submit any longer to this treatment. It is well, then, to begin with tempered douches (about 25° to 30° Cent.), and to progressively lower the temperature of the water; and it is only when the system is habituated to this mode of treatment that you will be able to give cold douches, or rather alternating douches (douches alternately cold and hot). These last sometimes have too stimulant an effect and determine hyperexcitation; you must then return to tempered douches. In a word, in your hysterical patients, you ought always to begin with tempered douches, and then according to the periods of excitation or depression in which your patient is found, you should employ the stimulating action of the alternating douche, or the sedative effects of the tempered douche. You must avoid at first douching the heads of your patients; I have often seen the shower-bath on the head determine neuralgic pains of a severe nature, or quite persistent vertigines. The duration of the douche ought not to exceed thirty seconds.

You will derive from hydrotherapy thus utilized, very beneficial results; cold-water treatment restores not only the sensibility of the skin, as Thermes has shown, but it also promotes the equilibrium of the functions of the nervous system, and nutrition in general. But in order to obtain these results satisfactorily, it is often necessary to remove the patient from her family surroundings, and to place her in some hydrotherapeutic establishment, where the administration of cold water is made with great skill and prudence. And this is a point on which Charcot has justly insisted. Mineral waters have a feeble part in the treatment of hysteria, and generally as it is the action of the cold water that is sought, patients are sent to the hydrotherapic stations so numerous in the centre of Europe, and which especially abound in Switzerland and the Tyrol; stations of which Devonne and Aussèe are types, and which, with the addition of cold water, unite all the climatic conditions favorable to the treatment of affections of the nervous system. In France we have a thermal station which enjoys a certain repute in the treatment of nervousness, I refer to Neris; to these waters you may join those of Ussat, St. Sauveur, and Forges les Eaux.

But, while on this subject of mineral waters, I must caution you against the employment of sea-baths in hysteria. I see many of my confrères send their hysterical patients to the sea-side; it is a bad practice. For my part, I have always seen sea-air and especially sea-baths, attended with such excitation

Beau and Bernutz advise warm baths of two, four, six, and eight hours' duration.

Bernutz has seen, under the influence of baths six hours long, cataleptic attacks that have lasted six or eight months disappear completely. (Pomme, Traité des affections vaporeuses des deux sexes, Paris, 1883. Bernutz, art. Hysterie, in Nouveau Dict. de Med. et de Chir., 1873).

that my patients were much worse for it; so, in my opinion, the hysterical condition contra-indicates the employment of sea-baths.

Electricity is doubtless an element of secondary importance in the treatment of hysteria; nevertheless, it renders us good service. It may, as we shall presently see, arrest the attacks or diminish their number; it may also modify sensibility, like hydrotherapy. In these cases, it is especially to static electricity that you should have recourse, as it is this form of electricity, revived by Arthuis, and more recently by Charcot and Vigoureux, which gives the best results. It is here that you should make use of those general electric baths, those electric brushes, and those sparks which I described in my lecture on medical electricity, procedures which constitute what is called franklinization. But there is a kind of medication which has with electricity many points of contact. I refer to metallotherapy, on which I desire to dwell at some length. From the most remote antiquity, medicinal properties have been attributed to metallic plates,[1] and plates of copper, lead, or gold, applied as veritable amulets to the skin, have had curative efficacy in certain nervous disorders, according to the statements of ignorant pretenders. About the end of the last century an American physician by the name of Perkins[1] grouped together all the facts from Galen downward, and propcunded a medical doctrine which bore the name of *Perkinism.* But almost all of these facts were forgotten when Burq commenced

[1]The application of metallic plates or disks is of very ancient origin; Galen, Paul of Egina, Von Helmont, all made use of plates of lead as anaphrodisiac, and in the last century the amulets of Saturn were of popular usage in accouchements. Metallic gold was employed by Marcellus, Epicurus, Alexander of Tralles, Péter Albanus, as an external remedy for pains. Copper plates were employed by the contemporaries of Aristotle to assuage pain. In India they employ, as a therapeutic measure, alternately applications of pieces of gold and copper. Finally at the commencement of this century, Perkins in America, Frank of Vilna, Wichmann, and D'Espine made known facts where the application of metals modified nervous states. But all these facts had fallen into oblivion, when Burq communicated to the Academy of Sciences on the 4th of February, 1850, his memoire entitled, "Note to Serve as History of the Physiological and Therapeutic Effects of Metallic Armatures, or of Certain Metals on Paralysis of Sensation, or So-called Anæsthesia." Burq completed this work in his inaugural thesis of February 7th, 1851. It was not, however, till 1876 that the facts recorded by Burq were definitely recognized in the conclusion of a report made to the Society of Biology by Dumontpallier. (*a*)

(*a*)*Schiff*, Arch. des sciences phys. et nat., Geneva, 1879, No. 3. *Westphal*, Berliner klin. Wochens., July 27, 1878, p. 81. *Mader*, Wiener med Wochens., 1880, p. 681. *Ost*, Corresp. Bl. Schweiz Aerzte, 1880, p. 524. *Sciamanna*, Gaz. di Roma, June 1, 1878. p. 227. *Parona*, Ann. univ. dè Med. et Chir., Oct. 1879, t. xlix, p. 336. *Cennctt*, Brain, Oct., 1878, p. 331. *Eulenburg*, Deutsche med. Woch., June, 1878. p. 151-327. *Tuke*, Metalloscopy and Expectant Attention (Journ. Ment. Sci., Jan., 1879, p. 508). *Gradle*, Metalloscopy and Metallotherapy (Journ. Ment. of Nervous and Mental Diseases, Oct., 1878, vol 3, p. 781). *Fetit*, La Metallothérapie ses Origines son Histoire, Paris, 1881. *Huchard*, Traité des nervoses, p. 1128, *Dujardin-Beaumetz*, Des proprietés esthesiogenes de certains bois, appliques sur la peau (Bull. Gén. de Thér., t. 99, 1880, p. 97). *Hammond*, Clin. lecture on Metallotherapy and Expectant Attention, in Philadelphia Med. and Surg. Rep., April 3, 1878. Galen Book V. Paul of Egina, Book vii. sec. 3. Peter Albanus, vide Spregel, vol II. p. 203. Wichmann Ideen zur Diagnostik. Hanover 1800, t. 1. p. 159. D. Espini, Observations de Med. Prat. Annecy, 1838. Burq, Academie de Sciences, 14th Feb., 1858 (thèse inaugurale). Dumontpellier Gaz. Med. de Paris, 1877, p. 241, etc. Oscar Jennings, Comparisons of the effects of different treatments in hysteria, preceded by a historic sketch of metallotherapy. Thése de Paris, 1878. No. 335.

his experiments, and it is to him that we owe the valuable discovery of metallotherapeutics and the indications which flow from it. The first tentatives of this experimenter were made in 1850, and it was not till nearly thirty years later, after the reports made to the Society of Biology, in 1877 and 1878, by Dumontpallier, that this method entered definitely into the domain of current practice. Burq affirmed that metals applied to the skin restore sensibility, force, and animal heat, and that according to circumstances little understood, the curative metal varies with individuals. Such a person is sensitive to gold, another to iron, another to copper, etc. etc., and from the results of these external applications of metals he drew conclusions as to the internal administration of metallic preparations, which had the same property of restoring sensation and bodily heat; in a word, metalloscopy led to metallotherapy.

The experiments made in this direction by the Committee of the Society of Biology, under the supervision of Charcot and Dumontpallier, brought to light a great number of new facts; they showed that troubles of sensibility, limited to one-half of the body, might, under the influence of these metals, be transferred to the half not affected, thus illustrating what has been described as the *law of transfer.*[2]

[1] Perkins was a physician who practiced about the end of the 18th century in Plainfield, N. J., and who died in 1800, in New York. He was the inventor of an instrument whose essential part consisted in the presence of needles of different metals, some of steel and some of brass; in moving these needles over the painful parts of the skin it was claimed that pain might be made to disappear. This mode of treatment, brought from America to Denmark, had a great reputation. Heroldt and Rafne, physicians of Copenhagen, perfected this mode of practice, and employed needles of silver, of zinc, of bismuth, of copper and of lead and even of ebony and of ivory, and noted that the latter had but little effect. The name of Perkinism was given to this therapeutic procedure. (*a*)

[2] Huchard has given an excellent description of the phenomena which are observed as the result of metallic applications, and this is the way he classes them: 1. Return of sensibility. 2. Phenomena of transference. 3. Consecutive oscillations. 4. Provoked anæsthesia. 5. Phenomena of inhibition.

1. The return of general sensibility takes place from ten to twenty minutes after the application of the metallic plates, in a zone of several inches around the plate. It is announced by prickings, formications, and elevation of temperature. Moreover, pricks which were made before the application of the metallic plates, are red and bleeding. The muscular force returns at the same time as the sensibility.

2. Transference is produced symmetrically in homologous points, and sensibility to the temperature and the muscular force may also manifest phenomena of transference.

3. The consecutive oscillations show themselves after the applications of the metal, and alternate returns of æsthesia, and anæsthesia are produced in the point where the metallic application has been made and in homologous points.

4. Just as one can produce æsthesia one can also provoke anæsthesia.

5. As for the phenomena of inhibition, they are produced by fixation of the phenomena of æsthesia or of anæsthesia, by the adjunction of neutral plates to active plates. (*b*)

(*a*) Alibert's Elements of Therapeutics, Vol. II., page 521.
(*b*) Huchard, Traite des Levroses, Paris 1871, page 123.

It was also discovered that metals were not the only bodies capable of modifying sensibility, and the number of æsthesiogenous substances, as they are to-day called, continually increases. Charcot and Regnard, taking up again the first experiments of the last century, noted the æsthesiogenous properties of magnets.[1] Vulpian showed that electricity, applied to a very circumscribed part of the cutaneous surface, possessed the same properties. Then Grasse, with the vesicatory; Thermes, with cold water; Parona, with metallic salts; Seure, with dried collodion and cellulose; and Lannois and Huchard, with jaborandi, obtained the same results.[2] I myself, in my hospital service, have shown, as Jourdanis had previously done, that wood, like metals, can restore sensibility, and that, just as there exists active and inactive metals, there exist

[1] Magnets have been utilized in therapeutics for many years, and without speaking of antiquity, when magnets were applied internally to cure nervous affections, in the 17th century they were employed in the crisis of hysterical suffocation. Father Hell constructed armatures which were used in France by the Abbey Le noble, Descemet, La Condamine and Arquier. In their report to the Royal Society of Medicine, in 1779, Andry and Thouret showed that the application of magnets is especially useful in diseases which have for their principal cause exaggerated action of the nerves, such as spasms, convulsions, and acute pain.

Lænnec employed magnets in certain spasms. Charcot, Debove and others have especially studied the action of magnets. (*a*)

[2] The number of æsthesiogenous substances is considerable, and, apart from electricity, it has been noted that the following substances may bring back sensibility:

1. Collodion. Seure has observed the action of collodion as an æsthesiogenous agent; he makes use of dried plates of collodion which he applies to the skin.

2. Pilocarpine. Grasset, Lanois, and Huchard have caused sensibility to return by practicing sub-cutaneous injections of pilocarpine.

3. Plates of bronze and of various materials. Plates of bronze, according to Wesphal, are æsthesiogenous. Parona has employed minerals, such as sulphate of iron, carbonate of lime, sulphate of lime, and fluoride of calcium, and by this means has brought back sensibility. On the other hand, sulphate of baryta and mica do not posess any æsthesiogenous property.

4. Hydrotherapy. Thermes has observed that the employment of cold water and of ice restores sensibility.

5. Vesication. Sinapisms like vesicatories may restore sensibility. Grasset has insisted on these facts, which were before pointed out by Barthez, Buzzard, and Russell Reynolds.

6. Sonorous vibrations. Sonorous and mechanical vibrations possess æsthesiogenous properties. Maggiorani went so far as to maintain that it is by this molecular action that is produced the action of the metals, and of all æsthesiogenous bodies. (*b*)

(*a*) Hell. Med. Prat. Bibl. de Murray t. xi, 1779, Gottingen. Andry and Thouret, Memoires sur le Magnetisme. (Mem. de la Soc. Royal, de Med. 1879, t. iii., p. 521, 638.) Lænnec, Treatise on Mediate Auscultation, 1828, t. ii., p. 69. Maggiorane, la Magneteli nervosi, Milan, 1869. Proust et Ballet, Congrès d'Amsterdam, Nov. 23d, 1879 et Jour. de Ther., 1879. Debove soc. Med. des hôp., 1880, and Gaz. hebd. de Med. et Chir, Sept. 19th, 1859, p. 903.

(*b*) Beard, Brit. Med. Jour. Sept. 6, 1879, t. ii., p. 373. Seure, Researches on the Electrical properties of dried Collodion. (Acad. des Sciences, 1880.) Maggiorani, Bull, de Ther., t 49, p. 100, 1880. "On the Physical Effects of Sonorous Vibrations." Gresset, Return of General and Special Sensibility in a Hemianæsthetic Patient, after the use of an infusion of jaborardi (Jour. de Ther., No. 1, 1880). Lannois, Jour. de Ther., April 10, 1880. Huchard, Jour. de Med. et Chir. Practiqués, Dec., 1882, p. 541.

also woods with variable action, so that, alongside of *metallotherapy*, we have *xylotherapy*.[1]

The method invented by Burq,and called *Burquism*, gave rise to numerous experiments which were not limited to the school of Salpêtrière. In Germany, Westphal, Eulenburg, Mader, Ost; in Italy, Maragliano, Sepellì, Sciamanna, Parona; in England and America, Thompson, Hughes Bennett, Tuke, Donkin, Sigerson, Beard, Gradle, and Hammond, repeated the experiments of Burq, and to-day we have documents sufficiently complete, and sufficiently numerous to enable us to appreciate this method at its just value.

First, how are these metallic applications made? In a very simple manner. All that you have to do, is to apply to the skin of your patient certain metallic plates as directed by Burq, or what is much more handy, pieces of money, and to watch the phenomena that occur after this application, which may have a variable duration and extent; thus, for example you can make bracelets or girdles of these coins, to be worn for a time around the diseased part. We utilize in the same way disks of wood or of dried collodion; as for magnets, you should use large ones, of considerable power, and a weight of at least twenty pounds.

Internal metallotherapy may be tried; *i. e.*, having once recognized the active metal, you may give some pharmaceutical compound containing a salt of the metal in question. On this principle, chloride of gold[2] has been given in the dose of one to two centigrammes a day, nitrate of silver in the dose of one centigramme, the salts of zinc, and especially oxide of zinc, in the dose of twenty to thirty centigrammes, the salts of copper, the salts of iron, etc.

What are you to think of metallotherapy? Are there certain genuine facts at the basis of this medication, or is it a species of dupery? After the report of Dumontpallier to the Society of Biology, medical men here in France and abroad were divided into two parties, one party maintaining that metalloscopy had no serious basis, and that a certain effect wrought on the imagination of hysterical patients, "expectant attention," as it was called, explained all the

[1] Hoggard had already shown the æsthesiogenous action of different kinds of wood as illustrative of "Perkinism;" in 1878 Bennett noted the action of various woods on the cutaneous sensibility. Dujardin-Beaumetz and Jourdanis have in their turn proved that there exists a series of active and inactive woods. The active woods are thuja, rosewood, mahogany, pitch-pine, butternut, maple, and apple tree; the most active of all is cinchona. Ebony wood, ash, poplar, and sycamore have no æsthesiogenous property. (*a*)

[2] Chloride of gold is obtained by putting in contact metallic gold with nitro-hydrochloric acid; a solid and crystalline mass is thus obtained, yellowish red, and very deliquescent. This chloride of gold had been before employed by Chrestien, of Montpellier, by frictions on the tongue and gums, in the dose of one centigram. It is a caustic and an emeto-cathartic which produces in the dose of 5 to 10 centigrams repeated vomiting. Of late it has been advised to use not chloride of gold, but gold leaf prepared for gilding; with this pills are made and given to the patient.

(*a*) Bennett, Brain, Journal of Neurolgy, October, 1878. Page 331. Dujardin-Beaumetz, On the æsthesiogenous properties of certain woods. (Bull. de Ther. t. 99, 1880, p. 97.)

phenomena observed; others, on the contrary, maintained the positive remedial power of the metallic applications, apart from any "moral" effect.

To-day, gentlemen, unless we except a few obstinate individuals whom nothing can convince, everybody seems to be agreed that there do exist æsthesiogenous substances which restore or transfer sensibility, or cause to disappear certain nervous troubles, not only in the case of neuropathic persons, but also in certain lesions of the nervous system. But while admitting the truth of the facts adduced by Burq, it must be borne in mind that from the exclusive point of view of therapeutics, this method has not realized all that has been expected of it. Yes, the application of metals to the cutaneous surface has sometimes caused sensory troubles to disappear; it has even cured certain contractures, but these are exceptional facts, and the results obtained are temporary. In short, metallotherapy merits a very humble and secondary place in the treatment of hysteria.

I have experimented much with metallotherapy in my hospital service. I have observed facts very curious, very strange, the physiological explanation of which seems to me, at present, impossible to give; but my hysterical patients have not derived from this method any definite or lasting benefit, and they generally go away in about the same condition as when they entered. I add that there is a certain number of anæsthetic hysterical patients on whom metallotherapy has no effect, especially when the loss of sensibility is general. At the same time I admit that there is between the convulsive manifestations of hysteria and disturbances of cutaneous sensibility a very intimate correlation, and when you cause the latter to disappear, you often cure the former. We have, then, every interest, from a therapeutic standpoint, in restoring sensibility to the skin, and as metallotherapy is one of the means for attaining this end, in spite of the temporary and often uncertain results which are obtained, it is not best to abandon this mode of treatment, which is attended with no danger, and enables us, in certain cases, to obtain alleviation, if not permanent cure

I have now finished the general treatment of hysteria, and come to the second part of my subject, the treatment of the attack. When a hysterical subject has an attack, you ought instantly to place her on a small bed or cot convenient for passing around; you should remove all tight clothing and everything which can cause constriction, and then proceed to employ the various means in repute for putting an end to the paroxysm. Formerly they were in the habit of pouring or dashing cold water on the face of the patient. Cruveilhier,[1] reviving an ancient practice, made the patient swallow large gulps

[1] This is the way Cruveilhier proceeds: At the moment when the jaws cease to be contracted, he introduces the edge of a teaspoon, which keeps the mouth open; then seizing a bottle full of water, he pours the water from a certain height into the mouth of the patient; this he continues to do for some time. The first mouthfuls are generally rejected, but the spasm of the throat ceases, the patient can swallow, and soon comes to herself. The water never in these cases penetrates the larynx. Anstie recommends to make strong pressure over the abdomen, in order to force the uterus into the pelvis, for it was supposed at this period that it was the uterus itself which, by its position in relation to different organs,

of cold water, but lately we have found a quicker and surer method—that of compression of the ovary.

The ancients, who attributed to the uterus a preponderating *rôle* in the convulsive manifestations of hysteria, had already proposed various manœuvres, which consisted in compressing the womb, in putting in the vagina odorous substances for the purpose of acting directly on the womb, or in various measures for ridding the womb of purulent humors which it was supposed to contain (such even as titillation of the external genitals and neck of the womb, as recommended by Galen, Forestus, and Ambroise Paré). Areteus, Aetius, Sauvages, Astruc, and others dwell long on the advantages of various procedures; you know even that external compression is of vulgar usage, and you often see persons make pressure and even *sit* upon the belly of patients to arrest convulsive seizures. But this practice has been reduced to method since the labors of the Salpêtrière, which have shown us that one of the most frequent hysterogenous points is the ovarian region, and that it suffices to compress this region, either on the left or on the right side, to bring on an attack or to cause one to disappear.

This is the way to practise compression: the patient being placed on a hard, low bed, the physician, standing by her side, plunges the closed fist perpendicularly into the sensitive ovarian region. It is necessary at first to employ considerable force to overcome the contraction of the abdominal muscles, but once this obstacle is overcome, the hand penetrates the iliac fossa, and the spasms cease if the pressure be continued for a certain time.

Certain apparatuses have been constructed, called *compressors of the ovary*, models of which I now show you, and the most simple of which is that of Ferrè, which consists in a hernia truss, terminated by a conical pad, which is applied over the sensitive ovary. This apparatus, they say, will prevent the recurrence of a convulsive attack; I avow that I have never made use of these compressors, and therefore know nothing about them. Surgeons have even gone further: they have proposed ablation of the ovaries, and we have seen Battey and Peaslee perform this spaying operation in cases of hystero-epilepsy.[1]

determined the attack of hysteria, and that all that was necessary, in order to cause the attacks to disappear, was to press the uterus into its normal position. Recamier, nearer our epoch, counselled an analogous procedure in the application over the abdomen of the patient of a pad, with which he made very energetic pressure. Among the common people this practice has been known for a long time, and we see in the history of the Convulsionists of St. Medard the account of women on whose bellies persons jumped, or even placed large stones; some even were in the habit of striking hard blows, frequently repeated, with iron bars or heavy clubs. Gustave Sadrain prefers compression of the ovary to galvanism in the treatment of the hysterical attack (*a*).

[1] To Battey is due the chief credit of this operation, now known as Battey's operation. There are on record three cases, at least, where ablation of the ovaries resulted in permanent cure of hystero-epilepsy, recurring at the menstrual period; those of Battey, Peaslee, and Braun-Ferwald. Vide Battey, Atlanta Med. and Surg. Journal, September, 1872, and American Practitioner, October, 1875. Also, Peaslee, Transactions of the Amer. Gynæcol. Soc., p. 340, 1876, and Hegar, Die Castration der Frauen, etc., 1878, pp. 136–138.

(*a*) G. Sadrain, Etude sur le traitement des attaques d'hysterie. Th. de Paris, 1880.