for chronic bronchitis he could highly recommend this sulphur treatment."

The treatment of phthisis by enemata of sulphuretted hydrogen gas, although new in principle, is yet old in theory. As early as 1848, Dr. Blacklock employed liquid enemata of sulphide of ammonium to arrest intestinal excitement in cases of cholera. The use of sulphurous acid vapor and the internal administration of the drug also are merely a modified form of exhibiting the same medicament, which, with all reason, may be considered to have a similar effect.

As Dr. Bergeon's enemata are still on their trial, and the results obtained by various observers are at present rather conflicting, I do not propose to refer to it here. A few of the statements criticising the treatment may, however, appear instructive, as showing the efficacy in phthisis generally of sulphur, no matter in what form it may be used.

Dr. H. C. Wood, in the *Med. and Surg. Rep.*, May 28, 1887, claims to have obtained equally good results by the use of artificial sulphur-water by the mouth as a substitute for Bergeon's gaseous enemata. "Almost from time immemorial," he states, "waters of various sulphur springs have been used in the treatment of disease with more or less pronounced advantage. It is, indeed, notorious that many cases which have failed to yield to the most skilful home treatment have more or less imperfectly recovered at such springs. Experience has shown that especially three classes of cases are benefited,—first, all forms of chronic gout; second, various forms of mucous catarrhs, including some cases of so-called consumption; third, skin-diseases.

"It would seem, indeed, that the experience with the Bergeon treatment is precisely in accord with that obtained at the various sulphur springs,—namely, that sulphuretted hydrogen is a valuable remedy in the treatment of pulmonic catarrhs. The disadvantage of the Bergeon method is the cost of the apparatus, the time and assistance required for the administration of the injection, and the colicky pains, which are not rarely produced. The advantages of the method over the administration of the gas by the mouth are not clear. It is simply absurd to suppose that it can make any difference in the action of sulphuretted hydrogen upon the general system or the pulmonic mucous membrane, whether it is absorbed through the colon or through the small intestine. In either case, the gas, as soon as absorbed, enters the portal circulation, and passes by exactly the same route to the lungs."

He further states that "some weeks ago he commenced the administration of sulphuretted hydrogen water by the mouth in pulmonic catarrhs, phthisis, etc., and has found that it yields precisely the same results as does the Bergeon method of treatment. In a few instances the water disagrees with the stomach, but this is unusual. In such cases the rectal injections may be employed."

Surgeon-Major T. Murtagh writes to the *Brit. Med. Journ.* of January 8, 1887: "The application of Dr. Bergeon's method of treating phthisis is so objectionable as to be prohibitory in many cases. Would it not be well, therefore, to test the prolonged internal administration of sulphur, which, to some extent, *passes off by the breath as sulphuretted hydrogen?*"

From the various extracts which I have here brought together there can be no question that the efficacy of sulphur, in one form or another, in phthisis requires to be thoroughly tested. Enough has already been written to demonstrate that this germicide has, in the hands of many careful observers, yielded very remarkable results. If, after a thorough trial, on approved modern principles, it should be found wanting, it is easy enough to discard the remedy.

When administered either as sulphurous acid vapor, as sulphides, or in its elementary form, it should be our endeavor to retain the system for a sufficiently prolonged period of time under its influence. At the same time it must be remembered that *the doses ought to be small enough to saturate the tissues without producing toxic effects.*

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(To be continued.)

ANHALONIUM LEWINII.

By L. Lewin, M.D.,* Berlin, Germany.

I HAVE frequently called attention to the fact of the great number of plants which, without any experimental basis, have for generations been used by savage and uncivilized nations as remedies, poisons, and foods, which, further investigated with our modern and complete methods of research, would doubtlessly yield much valuable information to therapeutists. As far as these experiments

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have been carried out they have confirmed this fact.

We cannot possibly imagine how such knowledge could have been gained by these untutored and ignorant people. In speaking of the kombi poison, Livingstone* writes:

"It is difficult to conceive by what sorts of experiments the properties of these poisons, known for generations, were proved. Probably the animal instincts, which have become so obtuse by civilization that children in England eat the berries of the deadly nightshade (*Atropa belladonna*) without suspicion, were in the early uncivilized state much more keen. . . . In like manner, the earlier portions of the human family may have had their instincts as to plants more highly developed than any of their descendants,—if, indeed, much more knowledge than we usually suppose be not the effect of direct revelation from above."

However it may be, experiments with these drugs and poisons have nearly always borne rich fruit. It was for this reason that I undertook to experiment with a drug that was kindly given to me by the firm of Parke, Davis & Co. during my stay in America, and which they had received from Mexico. In its own country the drug is said to be called "Muscale Buttons," and is used as a narcotic, food, or relish. The only botanical classification that it was given in America was that it belonged to the family of the Cacti, but its genus or species could not be determined.

After my return to Germany I at once applied to Mr. Henning of the Botanical Museum of Berlin, and by his help was enabled to definitely determine its species by means of the blossoms of the drug. It proved to be an anhalonium, and indeed a new species, which, however, was very closely related to the *Anhalonium Williamsii*. In the mean while I had discovered several peculiar properties in the drug, and for this reason Mr. Henning honored me by giving the new species my name, for which I herewith express my thanks.

Before going into an account of my own experiments and researches with the plant I give a description of it, which was given me by Mr. Henning:

Anhalonium Lewinii, nov. spec., Mexico. Local name, "Muscale Buttons."

Root (cut off) thick, probably pyriform, like other species of the same genus (in a dry state), about one and one-half centimetres high and three to four centimetres in diameter, as if sliced, knotty, of a dirty-brown color, with knotty protuberances placed spirally, each of which was covered with a felt-like cap of a yellowish color, and without any thorns. These protuberances were about three to eight millimetres apart from each other, the top covered with a hairy cushion of a dirty-white color and about one and one-half or two and one-half centimetres wide; these hairs are six to nine millimetres long, and from them protrude very small blossoms, of about one centimetre in length. The blossom is widely bell-shaped (four millimetres), the leaves five millimetres long. The eight outer leaves are dark green on the back and have a long, triangular, transparent point. The inner leaves are twelve in number, and probably of a pale-pink color. These are the flower-leaves proper; they are spatulate, blunt, smooth-edged, and about five millimetres long.

The numerous pollen vessels are attached one above the other on the inside of the flower leaflets. They are shorter than the perigone leaves.

The filaments are from one and one-half to two and one-half millimetres long and white; the anthers hardly half a millimetre long and yellow.

The tube-like pistil is open at the top, and is not quite as high as the perigone leaves, yet considerably longer than the pollen-holders.

The rudimentary fruit is embedded in the leaf, and is about one and one-half millimetres long. The fruit is an oblong berry, six millimetres long, and contains about fourteen seeds, which are about the size of a mustard-seed.

The plant is nearest related to the *Anhalonium Williamsii* Linn. (country unknown), and yet differs from the latter very materially in form. This is especially noticeable in the peculiar felt-like form of the single bunches of hair, which in the *Anhalonium Williamsii* are of a purer white, silkier, and longer; also the great hair cushion is not nearly so strongly developed in the last-named species. In this species the inner perigone leaves are pointed, and have a dark line traced on the outside, also the pistil is shorter than the pollen vessels.

This new species makes the seventh known of the Anhalonia. They are as follows: *A. prismaticum*, *A. elongatum*, *A. areolosum*, *A. sulcatum*, *A. Engelmannii*, *A. Williamsii*, and the one which is the subject of this article.

* D. and Ch. Livingstone, "Narrative of an Expedition to the Zambesi," London, 1865, chap. xxiii. p. 467.

It is by no means surprising that this species should have for so long a time remained undiscovered, for all Anhalonia grow on high and rocky peaks and in most inaccessible places. They are frequently found on chalk cliffs, into which they penetrate with their long roots.* These Melocacteæ differ materially from all other Cacteæ in their geographical and natural distribution, as has been pointed out by Lemaine. These thrive well even in our latitudes, whereas the Anhalonia grow very poorly.

General History of the Cacteæ.—In ancient medical writings no mention is made of Cacteæ.

Plinius† speaks of these plants, and refers to them as a plant which is indigenous to Sicily, and which has a stem which from the root grows along the ground, the leaves of which are wide and thorny. The stems were called cacti, and were used as food even when old. Attached to the seeds was a wool-like body called pappus. If this and the covering of the calyx were removed, a soft, tender marrow or pith would be revealed. Perhaps this was some sort of *carduus*, the exact importance of which may as yet not be understood.‡

In a corollary§ of Chermolans of Dioscorides an opinion is expressed that the plant, which is referred to as "axos,"‖ and about which is said, "Pappi recentes periculum afferunt," is nothing else than a cactus. Still, there is nothing to confirm this.

Although Cacteæ have for ages past been known and probably made use of by native American tribes, yet, as far as the literature of the plant is concerned, it appears to be quite modern. In the year 1790, Willdenow, in his "Species Plantarum," makes mention of twenty-nine kinds of Cacteæ, and in the year 1846 over eight hundred different species were recognized and grown in hothouses. But even to-day we are very far from having any complete list of this family; and this is especially due to the wide distribution of the plant, which, speaking roughly, stretches over ninety-five degrees of latitude.¶

If our botanical knowledge of Cacteæ is still incomplete, how much more so is our knowledge of the medicinal and chemical properties of the plant. In this line little or nothing has been done, and a large field for labor is opened before us.

Many years ago Büchner** investigated the milky sap of a few Cacteæ (*Mamilaria cirrhifera*, *Cereus flagelliformis*, *Cereus speciosissimus*), and, besides finding albumen and mucins, discovered also the presence of various vegetable acids in combination with lime. Of these and similar experiments, which, from a medical point of view, were valueless, Descourtilz†† speaks of a few chemical properties.

In the *Peirescia lychnidiflora* (*Cactus fimbriatus*) he found a resinous, gummy, odorless sap, which, besides albumen and other substances, was found to contain a very volatile, nauseous principle when subjected to heat.‡‡ In the *Peirescia aculeata*§§ this substance was not formed. There was, however, also discovered in the sap of the *Cereus grandiflorus*‖‖ a sharp, resinous gum, which hardened quickly when exposed to the air, and a very volatile principle. The fruits of the *Cereus triangularis*¶¶ contain a slimy, saccharine body, malic acid, and coloring-matter.

With these scanty accounts, which hardly even deserve to be called superficial, ends our chemical knowledge of the plant. This is not taking into consideration some technical experiments which were made with the coloring-matter found in various Cacteæ. It is very surprising that our previous knowledge has been so slight, as Cacteæ are used by numerous tribes and people as an indispensable article of diet, and among many as a most efficacious drug. The juicy stems of many Cacteæ are a source of refreshment to both men and animals in regions where water is scarce.*** Horses and donkeys will crush the plant with their hoofs, and then eagerly lap up the juice. The mild, white sap of the *Echinocactus Wislizeni*, which grows in the deserts, serves as a means for the weary traveller to quench his thirst. The fiat sprouts of the Opuntieæ are eaten to a very great extent both by Indians and whites. The seeds of the *Echinocactus Wislizeni*, when roasted and crushed, are very palatable, and

* C. F. Förster's "Handbuch der Cacteenkunde." Published by Th. Ruempler, Leipzig, 1886, p. 235.

† Plinius, "Natural History." Published by Wittstein, Leipzig, 1881, vol. iv. p. 103.

‡ Wittstein, l. c.

§ Dioscorides, "Commendat. ab Egnatio Veneto," Venitiis, 1516; Chermolai Barbari Corollarii, libri v., lib. iv., dclxxxxv. p. 81.

‖ Liber vi., caput xl., fol. cxxv.

¶ Förster, l. c.

** Büchner, "Archiv der Pharmacie," vol. xlix. p. 120.

†† M. E. Descourtilz, "Flore Pittoresque et Médicale des Antilles." Paris, 1821.

‡‡ Vol. v. p. 160. §§ Vol. iv. p. 292.

‖‖ Vol. i. p. 277. ¶¶ Vol. vii. p. 287.

*** Förster, "Cacteenkunde," Introduction, chap. ii.

can be made into bread. Cactus fruits are largely eaten; principally the fruits of the *Cereus giganteus* are particularly relished by the Arizona Indians and the natives of Southern California. From these are prepared the well known and highly-intoxicating "Tiswine." Also the *Cereus Thurberi* (Mex. *Pitahaya*) is used. The same may be said of the fruit of the *Opuntia Engelmannii, Camanchica, Raffinesquii*, etc.; these are commonly known as Indian figs, "Tunas." Also in Southern Italy, in Greece, and in Spain the fruit of the opuntia is considered to be a very palatable food. The fruit of the *Peirescia aculeata* is very extensively used in the West Indies. Numerous examples might still be added to the above list which would show how widely these fruits are both known and valued as food and dainty.

When used *medicinally*, the leaf as well as the fruit is considered to be of value. The latter is crushed, boiled, or roasted, and then mixed with milk, and among the Antillese is considered to be an invaluable emollient for "drawing" or ripening boils, etc. In acute ophthalmia the pulp is boiled and then laid as a cataplasm on the eyelids. Also the fruits of the *Cereus triangularis* find use as demulcents, while those of the *Peirescia aculeata* are prepared as a pectorant, which contains antiseptic properties and greatly relieves coughing.

I have mentioned above that the milky juices of various Cacteæ are merely indifferent, drinkable, slimy fluids. There are, however, many exceptions to this rule.

In several species, among which are the Cereastreæ, this sap is very powerful, and in its action upon the animal tissue is very similar to that of the Euphorbiaceæ; and the toxic action of the former has been frequently mistaken for that of the Euphorbiaceæ. I have before me a work, written not very long ago,* which states that the poison of the Annagos of the Dassa Mountains (north of Dahomé) is prepared from a certain cactus.

This statement must, however, be looked upon as false, as no Cacteæ are indigenous to that portion of Africa. The writer undoubtedly refers to a Euphorbiacea.

The least active seems to be the slightly-acid sap of the *Cereus flagelliformis*. In the West Indies it is mixed with gummy syrups and castor oil and used as an anthelmintic, both for children as well as adults,† and is further applied to wounds in order to "chase away all worms." The *Opuntia reticulata* is similar in action. The sap of the *Cactus pentagomos* is said to remove warts and superfluous hair.‡ The *Cereus grandiflori*s is still more active. The sap when applied to the skin for any length of time causes almost unbearable itching, erosion, and finally pustules. If the sap is burned in a room the inmates will be attacked with sneezing, coryza, angina, and even hæmoptysis. If chewed, it causes a sensation of burning and nausea. If introduced into the stomach in large doses, it gives rise to violent vomiting, painful dysentery, and other symptoms which are caused by the great irritation of the intestinal canal. In spite of this, this drug is looked upon as a valuable vermifuge, but is only given in connection with gum or syrup. (The thickened juice, in quantities of .12 to .6 gramme, is mixed with sixty grammes of syrup of mucilage, or ten to thirty drops of the juice with the above quantity of syrup.)

Finally, we must also mention the sharp and burning sap of the *Peirescia lychnidiflora* (*Cactus fimbriatus*). Although this is sold among the Antillese, and is supposed to possess both diuretic and cathartic properties, yet Descourtilz warns against its use, as the cactus is most similar to the Euphorbiaceæ in its caustic properties, and even will cause the mucous membrane to blister.

This is all that so far has been discovered regarding the pharmacological and toxical actions of various Cacteæ. All the literature on the subject I have wellnigh exhausted.

The following observations of mine differ very materially from the above, and I present them to the medical world merely as an introduction to a work which, in the near future, I hope to make more full and complete.

It is impossible for me at present to state how rich a harvest my labors will bring me. For some time, at least, I will continue my researches until I reach some definite conclusions.

Introductory Remarks on the Chemistry of Anhalonium Lewinii.—In order to obtain a pure substance I went through quite a series of experiments,—precipitating the watery extract with plumbic, acetic, and phosphoric acids,—but was not able to produce any sufficient quantity of pure material with which to experiment. The fluid extract is of a yellow-

* John Duncan, "Travels in Western Africa." London, 1847, vol. ii. p. 193.

† Descourtilz, l. c., tome i. p. 285.

‡ Ibid., tome i. p. 281.

ish-brown color, very slimy, has a slight odor, and tastes intensely bitter. When treated with alkaloid reagents, it gives the usual precipitates, and is free from acid (tannic acid ?).

The following methods of procedure led to the desired results:

1. The alkaloid fluid extract should be well shaken up with ether and the latter allowed to evaporate.

2. The powdered residue is extracted with petroleum ether in a cooler (Rückflusskühller) and then exhausted with hot alcohol. This alcoholic extract is replaced by water, filtered, and allowed to evaporate at a low temperature until it is of a syrupy consistency; it is then made alkaline and shaken up with acetic acid.

3. The drug is extracted with acid alcohol under the influence of heat, the chlorophyll overcome, shaken up with charcoal, filtered, evaporated until as thick as syrup, rendered alkaline, repeatedly shaken with fresh quantities of ether, and then the latter allowed to evaporate.

By either of the above methods a yellowish syrupy substance is obtained which soon becomes dry and tough. It has a peculiar odor, and is alkaline in reaction, is slightly soluble in water, and upon the addition of acids is easily dissolved. After the evaporation of such a solution, for instance, of a sulphuric acid solution, needle-like crystals are formed. These are easily soluble in water, and give reactions which I will refer to later on. A sufficient quantity of these crystals were procured for the following experiments, in the bottom of a glass vessel in which I had shaken up the alcoholic extract (in acid solution) with ether. Afterwards these were again rinsed off and cleaned off with absolute alcohol. This basic, syrupy substance I will for the present give the name of anhalonine. A more complete chemical description of the characteristic properties of its salts I will bring to the notice of the profession as soon as I have made further experiments and researches myself.

The crystals which I procured were colorless or with a slightly yellow tinge and needle-like. They dissolve with comparative ease in cold water, but much quicker in hot. The solutions are neutral in reaction. In cold, absolute alcohol they are almost insoluble; warm alcohol dissolves them after some time. Ether absorbs but little from the acid solution of the crystals; more, however, from alkaline solution. The same may be said of acetic ether. Alkalization of the watery extract colors it yellow; acidulation of the same makes it colorless again.

The crystals burn with a bright flame and puff up greatly in size. They, however, burn easily and entirely. During burning they emit a strong smell of horn. Nitrogen is easily traced by Lassaigne's test. If only a very small trace is placed upon a glass dish, and touched with a drop of sulphuric acid (to which a little nitric acid had been added), it will immediately assume a permanganate color, which, after some time, turns into yellow.

Also extremely small quantities of the same will give the glucoside reaction. After boiling with muriatic acid, copper is actively reduced in the alkaline solution.

The reactions of this substance in acid solutions, when treated with various reagents, may be seen by the following diagram:

	Iodide of potassium.	Picric acid.	Chloride of gold.	Phospho-Wolframic acid.	(Tannic?) acid.	Chloride of platinum.
Precipitate	Brownish-red amorphous.	Yellow crystalline.	Brownish-red crystalline.	White crystalline.	Yellowish-white amorphous.	After shaking flaky crystalline.
In alcohol	Soluble.	Easily soluble.	Soluble.	Insoluble.	Easily soluble.	Soluble.
Ether	Soluble.	Easily soluble.	Soluble. When warmed the solution colors blood-red.	Easily soluble.	Easily soluble.	Soluble.
Acid	In excess, soluble if slightly warmed.	In excess of muriatic acid, soluble.	Soluble in excess of muriatic acid.	Insoluble.	Insoluble.	Soluble.
Ammonia	Soluble.	Soluble.	Soluble.	Soluble with opalescence.	Soluble.	Soluble.
Excess of the precipitating medium.	Insoluble.	Insoluble.	.....	Easily soluble.	Partly soluble.	Insoluble.

I believe it safe to take for granted another active principle in the plant besides anhalonine, which is more active than the latter.

Action of Anhalonium Lewinii and of Anhalonine.—My first experiments, which were made with a watery decoction upon both warm- and cold-blooded animals, showed me, to my astonishment and surprise, that I was dealing with an intensely poisonous substance.

If only a few drops of such a decoction is injected into a frog, almost as soon as the needle is withdrawn his entire aspect chang-

His sides fall in, and instead of being rounded, the creature's contour becomes shrunken and wasted, which gives him quite a mummified appearance.

Simultaneously with these appearances, or immediately afterwards, the animal raises himself upon his four extremities, which also appear shrunken and thin. In this position he remains standing for some time, looking very much like a quadruped; then he crawls around, still keeping this position. In about ten or fifteen minutes, or sometimes even sooner, he sinks down again into a squatting position, and, after some time, regains his normal condition, and "is himself."

The above symptoms occurred in the many cases almost always. The drug seems to cause an acute muscular spasm, especially of the diaphragm and the abdominal muscles. After the actual spasm is over, it takes some time for the animal to recuperate itself. The reflex excitability caused lasts for a long or short time, according to the strength of the preparation used. In this the action of the drug is analogous to that of strychnine. The frog will twitch when touched, even ever so gently, and spreads out his toes as far as possible.

The duration of this condition varies. If the dose given was a small one the symptoms would last from five to eight days. Usually this condition will become so aggravated that every irritation, no matter how slight, will cause a tetanic convulsion. The head is drawn back so far that the body is bent like a bow, and becomes as hard as a board.

In cases of slight poisoning the animal's condition would become normal very soon after the tetanic condition had passed away. Mostly, however, the creature would retain the position in which it had been during the convulsion.

I was often struck with the great endurance the animals showed to these attacks of tetanus. But in some cases death occurred very soon.

Even after the animal had been beheaded the trunk could be thrown into a convulsion by slight irritation. In a larger number of experiments this possibility ceased if the spinal cord was severed below the fifth vertebra; in others, again, this had no effect. The severing of the plexus iliacus of one side prevented that limb being affected by the poison. I failed to notice any influence upon the action of the heart.

Corresponding results to the above were obtained when a watery solution of the alcoholic extract was used, and also when other preparations, some of which I have spoken of, were tried.

The subcutaneous injection of anhalonine in a clear, colorless solution (acid) caused similar symptoms as described above. The primary collapsed condition, followed by the reflex excitability and tetanic convulsions.

Pigeons, when given 1 to 2 Pravatz syringefuls in injection of the concentrated watery acid extract (previously warmed and shaken up with charcoal), begin to vomit in a few moments. In a few cases I observed continued and convulsive vomiting. In the intervals between the attacks the bird will spread its wings with an almost convulsive movement. It crouches down to the ground with its wings either drawn up or spread out. If the cage is shaken or jarred the bird will twitch convulsively. In about twelve minutes it beats convulsively with its wings, stretches itself out, falls over and opens its bill, while the head is drawn sharply back. This convulsion passes off, but the bird is unable to rise again. After the convulsions become more frequent it dies either during one or, as frequently happens, during the interval betweeen them.

An autopsy showed that the heart's action had ceased in diastole.

If the dose employed was but small no toxic symptoms were observed besides vomiting.

I have given the poison to the same pigeon eight or ten different times, on different days, without causing any other symptoms besides vomiting. The subcutaneous use of acidulated (sulphuric) anhalonine also gave rise to these symptoms of vomiting. As my supply of the drug was but limited, it is impossible for me to say whether or not this form could have also produced tetanic convulsions if given in sufficiently large doses.

In one case, of a young dove, a dose of this preparation caused its death in about six hours. The animal remained in a narcotic condition, but from time to time convulsive twitchings of the head were noticed.

The fluid extract was also given to rabbits in 12-gramme doses; also subcutaneous doses of a watery solution of the alcoholic extract, 2 or 3 syringefuls being given at a time; both of these gave rise to toxic symptoms precisely like those caused by strychnine or brucine.

The action of the drug from the stomach was, however, much slower than its hypodermic action. In rabbits it did not begin for four hours. The animal trembled all over as far as could be seen without disturbing it, but the moment I touched the cage or jarred it the typical reflex tetanus would begin. The ex-

tremities would be stretched out and head and neck drawn back. The attack would pass off and the animal would again gain its natural position and normal appearance. Respiration was very frequent. The fore-paws slip out in front and the head drops to the ground. Soon a second convulsion will take place. The heart with comparative strength will pulsate even after respiration has ceased.

The thickened etheric extract of the alcoholic preparation of the plant, when made alkaline, shaken with petroleum ether (this allowed to evaporate), dissolves easily in slightly-acidulated water. This, when given hypodermically, caused tetanus in about twelve minutes. The trembling animal raised itself up rigidly upon all four feet and died during the third convulsion.

This description proves the intensity of the poison. And it is the first time that any such violent symptoms have ever been accredited to a Cacteæ.

It will now be necessary for me to further investigate the chemical properties of this poison, and if possible be enabled to report something which will explain its actions. Of next importance to this will be the investigation and study of other Anhalonia; and also to find out what way and to what an extent these "muscle buttons" are used. I trust it may not be long before I shall be able to bring the result of my further investigations before the notice of the profession. It is far from improbable that this substance may also be of therapeutic value.

BERLIN, March, 1888.

ON THE TREATMENT OF RHEUMATISM AND NEURALGIA BY THE ELECTRO-VAPOR BATH AND MASSAGE.

BY F. E. STEWART, M.D., Ph.G.,* WILMINGTON, DEL.

(Continued from page 170.)

II.—ACUTE RHEUMATISM.

IN the first part of this article, under the heading muscular rheumatism, I spoke of the loose and inexact manner in which the term rheumatism is used even by professional men. As Professor Palmer, of the University of Michigan, has said, "Acute rheumatism is a sufficiently well-defined disease, but the terms rheumatism and rheumatic are often applied to nearly all pains which are somewhat more constant than those that are called neuralgia and neuralgic, but which are not accompanied by much constitutional disturbance."

This author goes on to say, "The aches and pains so common to subjects with lithic acid in the blood and lithates of sodium in the tissues, are popularly and often professionally called rheumatic. The darting pains of locomotor ataxia and the periosteal affections of syphilis are sometimes called by the same name. All neuralgias are spoken of as rheumatism, and various arthropathies, sciaticas, and 'cricks' in the back have this appellation given to them. The term may be, as stated by Fothergill, a great comfort to those who are diagnostically weak, as it may cover a quantity of ignorance and satisfy the patient; but it often gives a false sense of security in grave affections, and leads to inefficient or wrong methods of treatment."

As persons suffering with all the above conditions are sure to come to you for treatment, asserting that they are suffering with rheumatism, your reputation for curing this affection will depend very much upon your accuracy of diagnosis; and, as some of your cases will come from the hands of physicians who have made a mistake in diagnosis, a great deal of tact is necessary if you do not wish to offend either the patient or his former medical adviser.

Professor Bartholow defines acute rheumatism as "a constitutional disease, characterized by fever, inflammation of the joints, occurring in succession, and by a tendency to attack the peri- and endocardium."

After or without prodromic symptoms, consisting of muscular soreness, neuralgic pains, stiffness and soreness of certain joints, impaired appetite, coated tongue, constipation, etc., the disease itself is ushered in by a chill or chilly sensation, followed by high temperature and the usual concomitants of fever. The ankle-joints are generally the first to suffer, becoming tender, hot, swollen, and red, and every attempted movement attended with the most exquisite suffering. Other articulations soon follow, and are affected in a similar manner, and the disease goes through a course too well known to the profession to require description. The urine is concentrated, strongly acid in reaction, loaded with urates and uric acid, and albumen is generally present in small quantities.

As is well known, the course of acute rheumatism is much influenced by complications, the most important being those of the heart.

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