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A TREATISE

ON

Apis (The Bee), Tela Araneæ (Cobweb), Spongia and Cantharis.

By JOHN URI LLOYD, Phar. M.

Drug Treatise No. XXI has been delayed many months, owing to the research necessary to the systematic presentation of the subjects embraced therein. This will be apparent to every studious recipient, and yet the bibliographical references presented but poorly indicate the researches necessarily made among volumes of past literature, unnamed in these pages.

Historical data, as well as therapeutical references, are cited in each instance, and the author asks that full credit be given to one and all.

The Librarian of the Lloyd Library, Captain WILLIAM HOLDEN, has been of incalculable assistance, and to him our especial thanks are due.

To the care of the author's secretary, Miss MARGARET STEWART, A. M., as well as to her translations, pages 21 and 39, is due the completeness of each subject.

The author hopes that this study of a few remedies now little known, and their past records, which are even less familiar, will be of some interest and service to both physician and pharmacist recipients.

Drug Treatise No. XXI.

Issued by LLOYD BROTHERS, Cincinnati, Ohio.

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CONCERNING INSECTS AND RELATED REMEDIES IN MEDICINE.

Such remedies as are of animal or insect origin have been used from the earliest date, in medicine. As indicated in the following pages, which concern only a few of these, the record of their employment and introduction reaches, in all directions, back into antiquity. The references in Mouffet's History of Insects (1658) are particularly interesting, in that nearly every authority named in that remarkable citation of authorities of the olden time, were referred to as enthusiastic believers in insect remedies.

In Homeopathic medication many remedies of this description are however employed, being now favorites. In Eclectic therapy but four are given authoritative recognition, these four being the subject of the present treatise.

There is, however, no reason why such substances as the toxins of insects and reptiles possessed of energetic physiological reactions should not have therapeutic qualities, if remedies like beef gall, musk, and castor (likewise heirlooms of the past), are given pharmacopeial recognition. In Eclectic medicine, however, *spongia*, *apis*, *tela araneæ*, and *cantharides* are the only ones having any conspicuity. All of these, excepting the last, are highly valued by a great number of Eclectic physicians, and are being increasingly employed by physicians of other schools.

— The history, descriptions, and therapeutic record of these four remedies, of which one only, *spongia*, is not of insect origin, are considered in more or less detail in the following pages. The following, from the pen of Mr. John Thomas Lloyd, briefly but yet comprehensively introduces the subject:

Insects have been used in Chinese medicine from time immemorial.* The Greeks and the Romans employed insects as far back as the time of Christ, perhaps much earlier. But it was not until the Middle Ages that they came into universal use, being then presumed to cure almost every ill that affects mankind. Since that time, most insects have fallen into disrepute as remedial agents. The number of spiders employed has gradually diminished until, at the present time, barely a half dozen species are utilized. "Home practice," however, of the older generation still recommends some almost forgotten insect remedy, as for example *Lumbricus*, angle worm oil, to cure rheumatism.

A list of the insects used in medicine during the seventeenth century would enumerate almost every insect then known to man. At that period, religionists believed that every creature was made to be of some special benefit to man. In order to apply this theory to the hordes of insects, presumably created only to serve human interests, they were identified, wherever possible, as remedies for disease. A few, however, received little or no attention in medicine, their usefulness to man being accounted for in some other way. Thus *apis*, the bee (of importance in medicine at the present day), was much overlooked, evidently because its service to man in the making of honey was deemed reason sufficient for its creation. In the case of one insect, Mouffett (1658) states that he has found in it no medicinal properties, but he expresses a strong conviction that at some time the purpose of its creation will be discovered.—J. T. Lloyd, Cornell University.

* From the admirable paper of Professor Albert Schneider, of California, titled, *Some Objectionable and Unusual Chinese Drugs Imported into the United States*, we reproduce the names of only of insect and connected remedies. The uses accompanying these are to be found in the above paper, contributed to the *Pacific Pharmacist*, July, 1910.

Beetles, Carrion Beetles, Dragon Fly, Cantharides, Centipedes, Cocoons, Crickets, Earth worms, Eggs of Silk-Worms, Black Flies, Red Flies, Parasitized Insect Larvæ, Insect Skins, Dried Leeches, Maggots, Scorpions, Silk-worm Pupa, Spiders, Wasps' Nests.

Apis. (The Bee.)

(FORMERLY SPELLED APES).

History and Uses of Bees.—Bees have been used in medicine from the day of Galen. Pliny and other writers of the olden time disported at some length on the therapeutic use of the bee in substance and in compounds. Mouffet, 1658, in whose day insects and such were favorites in medicine, makes reference, as follows, to former authorities, and to the field of therapeutic usefulness the bee was then presumed to occupy.

The Use of Bees in Medicine.—First of all, their bodies as soon as they are taken out of the hive, and pounded and drank with some diuretic, or wine and milk, do strongly cure the dropsie, dissolve the stone or gravel, open all the passages of the urine, cure the stopping of the bladder. Bees that die in the honey cure impostumes, and help the dullness of sight or hearing. Also, being pounded together they cure the griping or wringing of the belly or guts, being applied to them. If poisoned honey be drank, they themselves being drank down after it, do expell it; they soften hard ulcers in the lips; being bound to a carbuncle or running sore, they heal it; they cure the bloody flux. Honey being strained with them helps the crudities of the stomach, or specks or red pimples in the face, as you may see in Hollerius, Alexander Bened, and especially in Pliny. Take bees dead in the combs, and when they are thoroughly dry make them into powder, as Galen in Euporist writes, mingle them with the honey in which they died, and anoint the parts of the head that are bald and thin haired, and you shall see them grow again. Pliny in like manner teaches to burn a great company of bees together and mingle the ashes with oil, and anoint the part, only with this caution, that the adjacent parts be not touched therewith; yea, honey scraped off bees that are dead, he affirms to be very sovereign in all diseases, and very useful. Erotis in his 61 chap. de Morh. mulieb., tells us that their ashes beaten with oil is good to make the hair white.—*Mouffet, Theater of Insects, 1658, p. 906.*

From this date, until revived in Homeopathy, Apis became gradually less important until (as shown later) Dr. John M. Scudder (1874) revived interest in it as a specific remedy in his teachings. The history of its record (after Mouffet) may be condensed, as follows:

In the chapter on *Insects in Medicinal Use*, *The New London Dispensatory*, Salmon, 1682, devotes two pages to Apis, together with its products, Honey and Wax, writing as follows about the insect:

The Bee. 1. **The Whole Bee in Powder**, given inwardly, provoke Urine, opens all stoppages of the Reins, and break the stone; they are good against Cancers, Schirrous Tumors, the King's Evil, Dropsie, dimness of

sight, for being taken a good while, they waste the Humour, and restore health. So their ashes, both made into an Oyntment with Oyl of Roses and Rats' dung, cause hair to grow speedily in bald places.

Dale, 1739, restricts Apis to alopecia and as a diuretic.

Bees, dried and powdered, as an ointment in alopecia, restore the hair. Taken internally, they increase the flow of urine.—*Dale's Pharmacologia*, 1739.

Quincy, in his *Compleat English Dispensatory*, London, 1749, confines himself as follows to "*prepared bees*," ascribing no therapeutic qualities thereto.

Apes Præparatæ—Prepared Bees.—"Put the Bees into a convenient Vessel, and dry them by a very slow Fire."

Lewis' *Materia Medica*, 1768, gives Apis scant attention, but in one particular, anticipates, roughly, its most important present use. He also refers to the calcined bee:

Apes Pharm. Edinb.—Bees. This insect, dried and powdered, has been given internally as a diuretic, and applied externally (ground with honey or other like substances) for promoting the growth of hair. Some have slightly calcined the bee, in a closed vessel, to blackness, and esteemed it, when thus prepared, to be a medicine, in some cases, of more virtue; a saline matter being now in good matter generated by the fire though not as yet extricated from the other principles.—For my own part, I have had no experience of the bee itself prepared or unprepared, nor is it used in practice; the valuable products, which this insect affords, honey and wax, will be treated of in their places."

Motherby, 1775, gives even less care to Apis, passing the entire subject as follows:

If they are dried and powdered they are somewhat diuretic; but their chief use is for the preparing of honey and wax.—*Motherby's Medical Dictionary*, London, 1775.

In the foregoing articles Apis is seen to have become decreasingly important as time passed, until at the beginning of the nineteenth century the bee had practically dropped from sight as a remedy. Neglected was it by Coxe's *American Dispensatory*, 1831, as well as by the first editions of the *United States Dispensatory*, 1833, and the *Eclectic (King and Newton) Dispensatory*, 1852. The early works on American medicine that we have consulted, omit the bee as a remedy, the early Eclectic authors, such as Jones, Newton, etc., do not mention it. Even the work of the man to whom is due its resuscitation, and to whom is due the present conspicuity of Apis, Dr. John M. Scudder, with whom it was an increasing favorite, gives to Apis no place in his work, *The American Eclectic Materia Medica* (Jones and Scudder), 1866. In 1874, Dr. Scudder, in *Specific Medication*, commends Apis as follows:

The honey bee possesses marked medicinal properties, but from a prejudice against such remedies, has been but little employed.

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I have seen a number of cases of diseases in women characterized by sensations of heat, burning pains in the bladder and course of the urethra, the frequent desire to micturate. These have been promptly relieved by the use of tincture Apis, and in two cases of chronic disease of long standing, a permanent cure was effected, following the relief of these unpleasant symptoms.—*Specific Diagnosis and Medication*, 11th ed., p. 83.

Apis now became increasingly a favorite, and has since been used by thousands of physicians who consider it invaluable in the treatment of disease when it is properly indicated. One of the most comprehensive articles on the subject, titled "A Study of Apis," from the pen of Dr. Franklin Pierre Davis, appeared in the *Medical Summary*, 1908, from which we extract as follows:

y Franklin Pierre Davis, M. D.:

"At the present time the tincture of the honey bee is one of the leading remedies of both the Homœopathic and Eclectic schools of practice. "Wolf, writing on this remedy in 1858, said that, after aconite, apis is the most comprehensive and universal useful remedy that we possess.

"After these centuries of use, the composition of the poison of the bee remains unsolved. And while to-day we do not know just what the active principle may be, yet from my experience with the remedy, I am willing to confirm Wolf's statement; for if there is any remedy that will give prompt and expected results when properly exhibited according to its specific indications, it is apis.

"**Construction of the Sting.**—A study of the mechanical construction and operation of the sting of the bee is interesting, not only in showing the manner in which the bee is enabled to force the poison into the object stung, but it gives us a clew to the proper mode of extracting the sting. A close examination of a sting that has been torn from a bee, we find a bundle of muscles near by and partly enveloping the poison bag. For some time after the sting has been detached from the body of the bee, these muscles will work with a pump-like motion, working the sting further into the wound. After the sting has been removed from the flesh, if it should stick to the clothing in such a way as to again come in contact with the flesh, it will commence working again, pulling itself into the flesh and emptying the poison into the wound, the same as if the living bee was working it.

"**Composition of the Poison.**—The elements that enter into the composition of the poison of the honey bee are unknown. It is probably a vegetable poison secreted from the honey and pollen that constitutes their food, but it is well known that the poison is much more pungent when the bees are working in the fields and accumulating stores largely than it is when they are at rest in the winter months. It is generally during the basswood bloom that we get those severe stings which draw blood and show a large white spot around the wound. It is also said that the poison of the black bee is more toxic than that of the other varieties.

"All authorities that I have found have been unable to give any light on the composition of the poison other than to say that it is generally considered that formic acid is the principal element. It is, however, difficult to find actual authority for even the presence of formic acid. Selzer has shown that the venom is not due to formic acid alone.

"From experiments made by Phisalix on sparrows, it has been proven that there are three distinct kinds of effects from the poison; a local inflammation, convulsions, and somnolence or stupefaction. In these experiments the poison apparatus was taken from the bees and mixed with water,

this solution being injected into the birds. In all cases the results were the same as when stung by the bees. These birds are very susceptible, showing the effects almost immediately after receiving two or three stings, and die in a short time.

"Phisalix claimed that there were three distinct active principles in the poison:—

"1st. An inflammatory principle. This he finds by experiment is destroyed by heating to 100 degrees C.; the poison exposed for fifteen minutes to the heat of boiling water no longer causes the local symptoms.

"2. A convulsive principle. This is similarly shown to be destroyed by a continued heating at 100 degrees C.

"3. A stupefying principle. This was destroyed by a heat of 150 degrees C.

"Apis has a direct action on the heart, usually described as a pressure, and heaviness, accompanied by a drawing-down pain; respiration becomes heavy, followed by nausea, pain in the head, and fainting. Paralysis was the first symptom noted in the experiments on sparrows. When the injection was made in the foot, the member became inactive. This was followed by convulsions; the convulsive action continued for from two to five hours, and was followed by somnolence, stupor, and troubled respiration, which were the last symptoms noted before death. In a case where a man received about one hundred stings from black bees in a few minutes, principally on the face, hands, and arms, the following conditions were noted: In fifteen minutes he had violent palpitation of the heart, and buzzing in the ears. This was followed in half an hour by a tingling sensation in his limbs, as if he were going to sleep, while, as he expressed it, his heart beat so fast that his ears felt as if the drums would burst. A little later everything seemed to get black at once. He felt faint, and his friends thought he was dying. His lips and finger tips (under the nails) became purple. An hour later his heart slowed down, and a severe chill followed. That night he felt a peculiar sensation all through his body, which appeared in different places, but more especially in his head, back, down his spine, in the limbs, and then back to the head again. There was some pain in the region of the heart for two weeks afterward.

"**Therapy.**—Apis has proven useful in chronic ovarian pains, and relieves the stinging, burning sensation in mammary cancer. In dropsy or enlargement of cellular tissue with fever, it is of value. In malignant scarlatina, where the tissues are of a purplish color, it is indicated. In urticaria, where coldness, vomiting, and diarrhoea are present, it is our most valuable remedy; while in diphtheria and erysipelas it is always indicated. It will promptly relieve edema of the throat and nasal passages, and retention and suppression of urine in children. In those cases of irritable bladder, with tenesmus and frequent but scant micturition, with soreness and burning, it may be depended upon."

The specific use of Apis, as recorded by recent authorities on the clinical use of the drug may be expressed by the following reproductions:*

By John M. Scudder, M.D.

"Indications for Apis are frequently found in diseases of the skin, and also in diseases of the bladder and urethra. Women are sometimes afflicted with sensations of heat and burning pains in the bladder and urethra, accompanied by an almost constant desire to urinate. In this unpleasant

* These extracts are often but fragments of detailed articles. The works mentioned should be on the shelves of every physician.

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condition apis is a most efficient remedy; in fact, in any case where there is itching of the genitals, with heat and burning pain in the urethra, accompanied by a frequent desire to urinate, it is a most useful remedial agent.

"In amenorrhea, menorrhagia, and leucorrhea, with acute congestion of the ovaries, apis is a potent remedy, and it also constitutes a useful medicament in vesicular erysipelas.

"In urticaria, or 'hives,' when there is the usual itching or soreness, this drug can be employed with confidence, that it will exert a decidedly curative influence. In the treatment of diseases exhibiting a tendency to dropsy and in rheumatism where is a blanched puffiness and severe stinging pain, Apis renders excellent service. It is also of decided value in edematous conditions of the throat.

"In suppression or retention of urine (unless there is a stricture) Apis has no superior in our materia medica. When continued for some time it increases the secretion of urine, and it is, therefore, a medicament to be considered in the dropsy attendant upon structural diseases of the heart. While it can not be expected to cure such wrongs, it will afford a relief which will be highly appreciated.

"The tincture of the honey bee is an excellent remedy if the diagnosis is well made. Given the peculiar burning pain that one associates with the sting of the bee, and I should think of this remedy. Burning pain with itching in the urethra, in the bladder, or any part of the surface is met by apis."—*Scudder*.

By Finley Ellingwood, M. D.:

Specific Symptomatology.—Acute swelling-edema of the cellular tissues, local or general swelling, with the formation of vesicles; urinary irritation from atony; incontinence from feebleness; retention from irritation with dark, heavy, scanty urine.

Therapy.—The agent is prescribed in *dropsy*, which appears suddenly. Old standing dropsies are not readily influenced by it. *Edema glottidis* is subject to its influence, and it quickly relieves the edema of the throat and nasal passages which accompany *diphtheria* and *scarlet fever*. It is also curative in the dropsy which follows these two closely related diseases, from sudden suppression of urine. It influences the kidneys at the same time, causing an increase of the urine; it soothes the irritability of these organs and relieves the congestion present. When effusion from *pleuritis*, *peritonitis*, or other acute serous inflammation is present it is given with confidence.

In *retention* and *suppression of urine* in children, and the aged, from atonicity or general feebleness, it is a useful agent.

It is also useful in *irritable bladder* with teasing tenesmus, where the urine is scanty and high colored, when micturition is frequent and accompanied by much soreness and burning.

In the *urinary incontinence* of the aged and feeble it is prompt in its action.

In doses of two drops of the specific medicine apis four or five times daily, many cases of passive *hematuria* intractable to other remedies, will yield promptly.—*Ellingwood's Materia Medica, Therapeutics and Pharmacognosy*.

By Lyman Watkins, M. D.:

"The indications for apis—edema with itching, burning, and smarting of the parts. While apis is now frequently prescribed by the writer, it was not so in former years. Having somehow become imbued with the idea that the remedy was worthless, suggestions from those who recommended it were received with a feeling of indulgent incredulity, and thus stubborn skepticism deprived me of a valuable weapon against disease. Within recent years apis has been given in edema, when accompanied with itching, burning, and smarting, and has relieved the condition wherever situated.

"Edema is only a symptom, the causes being varied. It may result from cardiac, renal or hepatic affections, thrombosis, embolism, chlorosis,

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or anemia. Judgment and reason must be exercised in the treatment of disease, and we should not expect to cure dropsy when caused by incurable lesions. Yet some cases have been cured by apis and iron, in which there was evident heart complications, as shown by cardiac irregularity, palpitation, dyspnea, anemia, and great general distress, with tissues soft, pitting deeply upon pressure.

"Apis will relieve edema when there is smarting, burning, and itching in the parts. It will relieve the smarting, burning, and itching in chronic leg ulcers, if the parts are edematous. Conjunctivitis with burning, smarting, and itching in the eyelids and surrounding tissues, if accompanied by edema, will be relieved by apis. Apis will relieve like conditions in erysipelas. It will relieve these symptoms in the urethra when accompanied by edema in any part of the body. It is not so effective in gonorrheal smarting, nor in cystic irritation, nor in irritation from acrid leucorrheal discharges, but it will sometimes afford relief.

"This remedy is recommended by many writers for various conditions, and has been used at intervals for almost a century. I have never found it of any special value in any condition, unless there was edema with burning, smarting, and itching. With these indications, no matter what the disease, it has been found effective."—*Watkins' Compendium of the Practice of Medicine*.

By John W. Fyfe, M. D.:

"Apis is a very efficient remedy in retention of urine, and in some cases of irritation of the urethra; also for inflammation of subcutaneous structures, with tensive and lancinating pains, and in irritation of the skin.

"I have seen a number of cases of disease in women, characterized by sensations of heat and burning pains in the bladder and course of the urethra, with frequent desire to micturate. These have been promptly relieved by the use of specific apis, and in two cases of chronic disease of long standing a permanent cure was effected, following the relief of these unpleasant symptoms. A peculiar, burning pain, that one associates with the sting of the bee, is the indication.

"Apis is particularly useful in post-scarlatinal dropsy, when there is a blanched puffiness of the skin and the peculiar burning or stinging of the surface. We have no better remedy for simple uncomplicated urticaria, with intense itching and soreness, than specific apis in fractional doses. The direct indication for apis is constant desire, but inability to urinate freely, the urine being deep red."—*Fyfe's Specific Diagnosis and Specific Medication*.

By A. F. Stephens, M. D.:

"**Apis, Specific Indications.**—Itching, with burning of any part; hot, dry, burning, and itching surfaces, suppression and retention of urine; constant desire to urinate, with inability to do so; irritation of the urethra, with burning, stinging pain. Indications for apis are frequently seen in diseases of the bladder and urethra. Women are sometimes afflicted with sensations of heat and burning pains in the bladder and urethra, accompanied by an almost constant desire to pass the urine. In this unpleasant condition apis is a most efficient remedy. In amenorrhea, menorrhagia, and leucorrhea, with acute congestion of the ovaries, it is a good remedy.

"**Dose.**—5 to 20 minims of the Specific Medicine are added to four ounces of water, and a teaspoonful administered every one or two hours."—*Stephens' The Essentials of Medical Gynecology*.

By H. T. Webster, M. D.:

Apis.—The poison of the honey bee possesses valuable therapeutic properties, and some of these are directed to the urinary tract. In irrita-

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n of the bladder and urethra with constant, teasing tenesmus, it is a very positive remedy, giving speedy relief in many cases.

It is also valuable when there is suppression or retention of urine, action extending to the kidneys and relieving irritation there. Its action on the kidneys has been made avail of in dropsical conditions depending on disturbance of normal renal action. In most scarlatinal dropsy, due to renal engorgement, it may be especially commended. In such cases, however, the dose must be material, and an infusion, or full doses of the tincture, must be employed.

In vesical irritation, minute doses act best, and the 3x dilution will be most preferable to the crude drug. Of this, half a drachm added to half glass of water, and a teaspoonful given every hour or two, will afford the best satisfaction.—*Webster's Dynamical Therapeutics.*

H. W. Felter, M. D.:

Apis is diuretic, alterative, and diaphoretic. It specifically influences the urinary tract, small doses somewhat resembling cantharis in action, removing irritation, and in larger doses, stimulating the renal organs and other portions of the urinary passages. The small dose may be employed if there be irritation, even though inflammation exists. Aconite, opium, and like agents, promote the action of apis, while ammonia and alcoholic liquors are antagonistic to it. It is specifically indicated where

there are hot, burning, dry, itching surfaces; and where there is constant desire, but inability to urinate, the urine being dark-red in color. Apis is one of the most certain diuretics in the materia medica, and is of very great value in **suppression and retention of urine** from atony. It may be used even when there is active inflammation: $\mathcal{R}$ Specific apis, gtt. v. aqua, oz. iv. Mix. Teaspoonful every hour, or use an infusion of from 15 to 20 bees in water, 1 pint, for the usual urinary difficulties indicated above. It is a very useful remedy for **urethral and cystic irritation**, with burning, stinging pain, and constant and annoying **tenesmus**. **Chronic nephritis and cystitis** are sometimes cured by it. It serves a good purpose in diseases of the women characterized by heat and a sensation of burning, with pain in the bladder and urethra, and constant desire to pass water. These conditions are relieved by it, quicker than by any other agent. In **menorrhagia, leukorrhoea, and leucorrhoea**, with acute congestion of the ovaries, or simple **ovarian congestion**, the parts being tender and painful, apis often gives prompt relief. **Genital puffiness** with irritation and **labial inflammation** of the same character are cured by it. $\mathcal{R}$ Specific apis, gtt. x; aqua, oz. iv. Mix. Teaspoonful every four hours. Owing to its power of relieving **renal irritation and engorgement**, thereby increasing function, apis is an exceedingly useful agent in **anasarca, ascites, and hydrothorax**, provided the kidneys are in an active condition. For these troubles; $\mathcal{R}$ Specific apis, gtt. v.; aqua, fl. oz. iv. Mix. Teaspoonful every hour. It is particularly useful in **post-scarlatinal dropsy**. **Inflammatory sore mouth** is benefited and often cured by apis. Sore throats, of an edematous character, having a uniformly spread puffiness, as if the submucous tissues were involved—the parts appearing as if stung by a bee—are relieved by it. These conditions are frequently met with as a complication of **erysipelas** and in the **angina of scarlatina**. It is often a prompt remedy for **circumscribed erysipelas**, and for all **subcutaneous inflammations**, with burning, stinging, tense, and lancinating pains, and dermal irritation. We have a better agent for the treatment of **urticaria**, or "**hives**," with soreness and intense itching, than apis. Puffiness is a strong indication of cutaneous diseases, and in **traumatic injuries** of the subcutaneous areolar tissues, it is often indicated by this symptom. It is a good remedy in **rubeola and scarlatina**, the usual indications being present. That form of **rheumatism** giving the peculiar symptoms otherwise indicating apis will be found to respond oftentimes to this remedy.

Specific Indications and Uses.—Itching, with burning of the surface,

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especially of the genitalia or urinary passages (Scudder); hot, dry, burning stinging, or irritation, the parts appearing as if stung; hives; vesical and urethral irritation, with constant desire, but inability, to urinate, the urine being deep-red; puffiness of parts with tendency to edema.—*King's American Dispensatory (Felter-Lloyd)*.

BEE STING IN RHEUMATISM.

It will be observed that one or two of the foregoing authorities have mentioned the subject of *Apis in Rheumatism*. The use of the remedy for this affection has been recently commented upon by many writers, some of whom could certainly not have heard of its previous employment in that direction. In 1904, at the meeting of the Kansas Eclectic Medical Association, a paper on this subject was read by Dr. E. B. Packer that attracted much attention, as it embodied Dr. Packer's experience in a case that came accidentally to his attention. This paper is thus reproduced:

My case was as follows: A Mr. Gardner, of this city, had been laid up with articular and muscular rheumatism for four years, and had been unable to walk any distance, and that only slowly and with a pair of crutches. In August, 1903, he was hobbling around the yard on his crutches and accidentally got his crutch caught and had a fall. In falling he fell against a hive of bees and upset it. The bees, enraged at such treatment, pounced on him by the hundreds, and before he could be rescued by his wife was nearly stung to death. After the stinging he was very sick from the absorption of so much of the virus from the stings. He vomited freely and often for about twenty-four hours, after which he got better, and found he had no more rheumatic pain. Nor has he had any rheumatism from that time to the present.

In a letter, dated January 30, 1909, Dr. Packer states:

I saw Mr. Gardner yesterday on the street, and he says that he has never had a rheumatic pain from that time to this, and that if he thought another stinging, such as he had then, would release the ankylosis of the knees and ankles and back that is the result of the rheumatism, he would go and kick over the first hive of vicious bees he could find, notwithstanding the fact that the former stinging nearly killed him.—*E. B. Packer, M. D.*

In the *Medical Arena*, June, 1904, a report was published from Dr. P. C. Gress, of Atchison, Kans., in which the sting of the bee was utilized for the cure of a long-standing case of rheumatism. From the good results obtained in these two cases, both Dr. Packer and Dr. Gress were encouraged to continue the use of this heroic method of treatment, as evidenced by another extract from the letter of Dr. Packer, above referred to:

Dr. Gress and myself have been treating rheumatism with bee stings for the past five years, but of course the treatment has not been as vicious as that reported in the case of Mr. Gardner. From 3 to 5 stings, at as many sittings, will produce all the relief required. I usually extend the sittings from five to twenty days, and I never use the second bee before the swelling or irritation from the previous sting is gone.

In December, 1908, probably without any information concerning the experience of Dr. Packer, Dr. E. T. Burton, of Birmingham, England, reports in the *British Medical Journal* the beginning of its use of the sting of the bee in several seemingly hopeless cases of neumatism, and in March, 1909, of the same journal, records his further experience as follows:

by E. T. Burton, M. D.:

Case I. A man, aged 76, tells me he has suffered not for ten, but fifteen years. He is continuing the treatment at the rate of twelve stings a week, and the pain which "left his hips and went into the thighs" changed its position to the knees on December 16th; on December 30th it returned lightly to the left hip, and on January 12th moved to the calves of both legs. He had only had fifty bees on the last date, having been shy at the aim in the commencement.

No. II still has some intercostal pain, but very much shorter in duration. She gave up the bees, but recommenced them after ten days.

No. III is coming to Birmingham again to have more bee stings, as he has been much freer from pain, which is much less, especially at night.

No. IV continues quite free from pain and is in excellent health.

The following cases are new:

No. V. F. C., a mechanic, aged 34, suffered from sciatica for eighteen months. For four months he was under the care of a private medical man who ordered him to Droitwich, where he had the usual baths for fourteen days. He went there also for the next eight or nine week-ends, having on each occasion four baths. He returned little improved, and attended hospital for fourteen days as an out-patient. After that for four months he was treated at the same institution by massage, and the galvanic battery, but without relief. On November 27th he commenced with twelve bee stings, which were repeated every week for six weeks. In five weeks there was marked improvement, and when I saw him last, on January 6th, he said he had been getting steadily better, so that he frequently did not know he had sciatica. He had had, up to the last date, one hundred bee stings.

No. VI. K. H., a married woman, aged 36, had during the past three years suffered from rheumatism and arthritis in the jaws, hips, knees, feet, elbows, wrists, shoulders, and hands. The bees were applied first on December 1st, and she had twelve every week till January 4th, or sixty in all. Results: Rheumatism nearly gone from the shoulders. Right wrist a little free. Right arm not quite set, but apparently released a little. Not so much pain generally. For the past two years there was incessant acute pain, whether active or idle."

No. VII. E. N., a single woman, aged 35, had suffered for three years and a half with rheumatoid arthritis in wrists and fingers, which are much deformed, and also in the ankles. She had been treated as an out-patient at a hospital and was an in-patient for ten weeks, when, she says, she "received some relief from the rest from work." She commenced the bee stinging on November 21, 1908, and on January 16th had had sixty-six stings. The grasp was much stronger, the wrists, fingers, and ankles more movable, stronger, and quite free from pain. Her nights, which had been frequently very bad, are much better.

No. VIII. H. D., a mechanical engineer, aged 54, was lamed by a kick above the left knee when ten years old, and had some bone removed. For the past thirteen years he has been gradually getting worse in the other leg from increasing sciatica. On January 8th and each of the following dates I applied eight bees to the region of the sciatica nerve—for I am satisfied that the stinging is not only antitoxic, but also counter-irritant—and on the following day he told me that before stinging he had to hang on to various articles of furniture to assist him crossing the dining-room, but when he returned home, after being stung, he could do so without assist-

ance. On January 11th his leg felt stronger and he could walk better. On January 13th he said he had less pain on leaving bed, and much better nights since January 8th, but followed by considerable pain in the day. He was better on January 15th, and his nights were still good. Walking did not seem so firm. There was a large, circular, inflamed patch over the trochanter. The last application of bees was followed by severe inflammation along the thigh. On January 19th the leg was not so strong, and there was increased pain. On January 22d he reported that he had more pain in the day, but the nights were very much better. On January 25th the pain was still severe, particularly in the femur. On January 29th pain followed in the right hip joint. On February 2d there was great stiffness in the thigh and knee-joint, and he was compelled to walk more slowly. On February 5th there was no improvement; but he was no worse. This gentleman seems to be losing heart, but, after thirteen years, cure can not be expected under a month, and after only one hundred bees have been used. He is continuing the treatment.—*British Medical Journal*, December, 1908.

As to my own case, up to January 22d my progress was most satisfactory. I continued to apply two lots of bees a week, and in all, 271 to that date. I had slight twinges of muscular rheumatism of not more than a few minutes' duration, for which reason I persevered with the treatment. But on that day I contracted a chill and suffered at night some pain in the glutei and right sciatic nerve. I at once put on eleven bees, and slept well, the pain next morning being much easier, and permitting me to work. On January 23d, after a long harassing day, I got to bed tired at 10 P. M., and applied fifteen bees, and on January 24th only had slight pain in the glutei, none in the sciatic. I made a necropsy for the coroner at 6.30 P. M., in a fireless mortuary, with a glass roof, the temperature being below freezing. On January 25th I attended the inquest in a court with mercury at 70°, the external temperature being 25°. I applied twelve bees on January 24th, and eight on the following day. On January 26th I had great pain in the glutei, and on January 29th this was increased on walking. I applied fourteen bees, and was better on January 30th, but still had some difficulty in walking. On Sunday, January 31st, I rested in bed all day, and applied eight bees at night. From February 1st to 7th the pain varied. On February 3d and 4th there was much pain after walking, and I applied in six days forty-five bees. On February 20th I was entirely free from acute pain, but still continue the stinging. I am taking no other medicine, and, but for occasional transient pain, feel very fit, and have, as one of my old ladies says, a very "avaricious appetite."—*British Medical Journal*, March, 1909.

Following these reports Dr. Burton adds a few words concerning the pain incident to the treatment:

I have been asked frequently as to the pain of stinging. After the first three stings on myself, I find that the intensity of the pain is much less lasting than at first—in fact, is over in half an hour at the most. Some of the bees seem to cause greater pain than others, but I think this may be explained by a larger cutaneous nerve being wounded by the sting. I hope that shortly your readers will have, from his own pen, the experience of another Birmingham practitioner, who tells me he has found great relief to old-standing sciatica from this treatment.

That the use of the sting of the bee in rheumatism is broadly disseminated is evident, an Austrian physician, Dr. Terc, claiming to have successfully treated seven hundred cases, as shown by the following extracts:

"There is a widespread popular belief in England, and, indeed, throughout Western Europe, that stinging by bees is a cure for rheumatism and allied ailments. Over a year ago Dr. Ainley Walker, of Oxford, asked

he chief medical and scientific journals for trustworthy evidence as to success or failure of this popular treatment. The poison which the injects is formic acid, and Dr. Walker's attention had been drawn to popular belief by certain observations of his own 'which seemed to suggest a possible relationship between some of the phenomena of acute rheumatism and abnormal production of formic acid in the body,' under the action of a micro-organism. He has now received, says **The Manchester Guardian**, an interesting body of mainly favorable testimony, much of it from medical observers. But the most interesting evidence of all is that from an Austrian, Dr. Terc, who has been using the treatment systematically, as he claims, successfully for years, and has dealt with seven hundred cases.

"Dr. Terc published an account of his method and results twenty years ago, but his paper was generally ignored. He has found that a rheumatic subject is less susceptible to bee stings than a healthy person; the ordinary swelling, which normally lasts a few days, fails to appear. His treatment is to continue the stinging until a stage is reached when even a rheumatic subject this swelling begins to appear. At this stage, there is a marked improvement in the rheumatic symptoms. The stinging is then carried on until a further stage is reached, when the swelling again begins to appear, however many stings are applied, and this development of immunity to stings is accompanied by a complete cure for rheumatism, the cure enduring as long as the immunity remains. Sometimes a dozen stings complete the whole process; sometimes hundreds are necessary.—*London Advertiser (The Pharmaceutical Era, January 14, 1909).*

BEE STING FATALITIES.

Notwithstanding all this, the heroic method of procedure by the direct sting of the bee, will not appeal to many persons, nor, for obvious reasons, ever be very popular. Besides, the sting of the bee is without danger. Deaths even occur from a single sting, as is often reported, the following being statements of fact:

In the summer of 1866 the wife of Dr. Albert von Donhoff, of Louisville, Ky., while engaged among the flowers of her garden was stung (in the temple I believe) by a honey-bee, and notwithstanding prompt assistance of her husband, one of the most experienced physicians of the period, she died within a few hours after the accident.—*C. Lewis Diehl.*

Mr. John R. Stanbery, of Powell, Delaware Co., Ohio, (father Mrs. Mary S. Watts, of Cincinnati), who had been previously stung several times by both honey bees and bumble bees, lost his life by stings of a bee sting. The tragic event is thus described by Mrs. Watts:

"The final stinging occurred on a very hot August day, when he had gone out to the clover-fields to watch the men cutting the clover-hay. He walked directly into a nest of bumble-bees; half a dozen of the men saw him, and ran immediately to his help. They fought the bees off, but it was too late. He spoke once, saying in reply to their questions "whether he had been stung," "I'm very sick," and became unconscious. He was hurriedly taken to his home, the services of a physician being at once secured. But, although everything possible was done, he died in twenty minutes. It was discovered that he had been stung six times, directly on the pulse. When his hand relaxed after death, a dead bee was found clenched tightly in it. "Perhaps I ought to emphasize the fact that my father was a very temperate man, and had been so all his life. He was in robust bodily health the time of his death."

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Apis in Rheumatism.—Dr. Felter, in the *American Dispensatory*, gives the following suggestions concerning the use of Specific Medicine Apis in the treatment of rheumatism, instead of by the direct sting:

That form of rheumatism having the peculiar symptoms otherwise indicating apis, will be found to respond oftentimes to this remedy. We have known of well authenticated cases where individuals suffering from rheumatism have been cured of that complaint after having been several stung by the hive-bee. We do not recommend this form of hypodermat injection, but prescribe for rheumatic conditions with blanched puffiness and the peculiar stinging pain, as follows:

R Sp. Med. Apis, gtt., v,
Water, ℥iv.

M. Sig. Teaspoonful every two or three hours.

—*American Dispensatory (Felter-Lloyd), Vol. I.*

Treatment of Bee Sting.—Ammonia water applied to the part stung is useful. Bruised green stramonium leaves is a domestic remedy. Libradol is the best palliative known to us. Plastered over the stung part, it gives instant relief. Remove the sting if it is left in the flesh and at once cover the part with Libradol. The pain disappears and the swelling quickly subsides.

HONEY (MEL) AND WAX (CERA).

Both honey and wax are employed in medicine and in pharmacy having been, in former times, very important. At present, sugar and glycerin have largely displaced honey as a sweetening agent, while the many uses ascribed to it in ancient and mediæval therapy are now forgotten and unknown. Wax has also been largely displaced by paraffin and spermaceti, whilst petroleum greases and paraffins have rendered wax cerates and ointments unnecessary. There is no reason why honey should not be considered as possessed of as varying energetic qualities as is true of its many flavors. Whoever has eaten of the renowned honey of Athens, made from the mountain flowers of Greece, or the fragrant white clover honey of America, and contrasts therewith the insipidly sweet honey made by syrup-fed bees, will certify to the marked differences in flavor. It is well known that the flowers of the jessamine and poppy are possessed of narcotic properties, and these combined with the products of organic life processes imparted by the bee under peculiar conditions, are sufficient to render this a rational conclusion. Indeed, naturally medicated honeys are on record, and which the following is a sample:

"Honey Mad."—In the flowering season of the opium poppy, bees make a honey possessed of narcotic qualities, such honey being known as **"Mad Honey."** Partakers of it wander aimlessly about, talk incoherently, and appear crazy. It is not a soporific, seemingly having quite different qualities from morphine. That the affection is not serious, however, is evidenced by the fact that, in Harput, Turkey, when Mrs. Thomas H. Norton, wife of the American consul, inquired what possessed a man under its influence, the reply was to the effect that he was only **"Honey Mad."**—*John Uri Lloyd, "A Treatise on Opium," 1908.*

In like manner, wax may be possessed of various qualities. In-
l, wax may, of itself, modify the action of honey. For example,
writer can eat freely of honey mixed naturally with the comb,
out any discomfort, whilst strained honey, as a rule, produces
appings and pain.

The importance of honey and wax in the therapy of former times
own by Mouffet, whose summary carries such a fund of references
of quaint applications, as to lead us to present his article entire.
hese will be perceived the origin of the Pharmacopeial prepara-
s, past and present, of both wax and honey, such as honey of roses,
ited honey, etc.

THE MEDICAL VIRTUES OF HONEY (MOUFFET).

As for the medicinal and physical virtues of honey; it causeth heat,
seth sores and ulcers excellently, wears them away, and removes them
hat part of the body soever gathered: as **Galen**, **Avicen**, **Celsus**, and
y have observed. It perfectly cureth the disease which causeth the
of the head or the beard to come off by the roots, called the Foxes
and other filthy ulcers of the head.—**Pliny**. To regain hair lost by
disease aforesaid, and for long (Agnes) it is very effectual, if the part
ointed with it raw as it is; or with the honey-comb newly drained or
tied.—**Galen**. But above and beyond all, the oil of honey distilled doth
t it. The water that droppeth from the honey, doth excellently cleanse
skin, provoke urine, extinguish the burning heat of fevers, open the
ructions of the bowels, quench thirst. The chalk or salt of it, as it is
ll corrosives, the least painful, so it is most energetical and operative,
therefore is very much commended by Chemics and Surgeons for to
that kernel or tumor of flesh which groweth upon the yard. But how
y, and how ample virtues that quintessence of honey (as they call it)
attained against the strength of all diseases whatsoever, is excel-
y described by Isaacus Belga, the predecessor of Paracelsus. Nay
out doubt, if wild honey and raw was able to prolong the life of
ocrates, Pollio, John the Baptist, in a word, of the Pythagoreans, and
reans (as aforementioned), how much more will it do being refined,
heightened to the highest degree of nutrition? The Epicureans who
: the best way they could to provide for their health and their pleasure,
always upon Ambrosia, as Tzetzes reports, which did consist of a
h part of honey; as if they meant by the use of it, to stave off all pains
griefs, and live free from all diseases and maladies. It doth wonder-
help the ulcers in the ears if it be poured warm into them, and espe-
y if an ill scent be joined with them. Moreover in their hissing, noises,
mmations, **Galen** commands to instill Attick Honey, butter, oil of
es, and as much warm water Marcellus Empyricus used to infuse into
ear that was pained. The same also very much commends honey min-
or kneaded with the ordure of a young infant, to cure the dullness
e sight, and the white spots in the eye. Vegetius by this means cures
watery eyes or dropping of the eyes caused by rheume or distillation.
t of all, a little below the eye he draws blood and anoints them with
purest honey till it be whole. But yet care must be had (as Columella
well hints) that as often as the eyes are anointed with honey, they
esmeared round about with melted pitch and oil, lest the wasps and
infest and hurt them. Hear also what Marcellus saith touching the
ring up of the eyes, and he prescribes this: The honey pure and neat
rein the bees are dead, let that drop into the eyes; or honey mixed
the ashes of the heads of bees, makes the eyes very clear. And
n, mingle Attick honey with the first ordure the infant makes, together
the milk of the nurse; and with that anoint the eyes that are so dull
tever the cause of it be; but first of all you must bind the patient to

orm or ladder; for otherwise such is the strength of the medicine, that will not be able to endure it. Which is such a present remedy, that in few days it will fully restore the sight, and take away every blemish of the eye. The gall of a vulture mingled with the juice of horehound (twice much in weight as the gall is) and two parts of honey cures the suffusion of the eyes. Gal. in Euporist. Otherwhere, he mingles one part the gall of the Sea Tortoise, and four times as much honey and anoints eyes with it. Serenus prescribes such a receipt to cause one to be quick sighted.

Mingle Hyblean honey with the gall
Of Goats, 'tis good to make one see withal.

Give infants butter and honey, for nothing is better for their breeding, and for sore mouths. Galen bids us rub their gums with nothing but honey. For it wonderfully helps to their breeding of teeth, preserving, cleansing and beautifying of them. Also against the pain of the jaws. If the Arabian honey you join field-poppy, it cures it. And sometimes pure honey is mingled with clear water, and this, as Serenus and Pliny testify, notably cures the dryness of the tongue in fevers, the quinsy, and the eases of the uvula, throat, jaws, or the tonsils; against difficulty of breathing, and to cause one to expectorate, either by itself or mingled with other things is highly commended by Hippocrates. And for the consumption of the laps of the lungs (which used to be a deadly disease), the drinking of cold water, and of that wherein a honeycomb is steeped is very actual. Also, if the stomach be not hot, choleric, bitter, nauseating or craspy, it makes it strong and vigorous, and nourisheth it much, not suffering milk to curdle in it: it cleanseth the reins, boiled with water and after it is good against the stone.—**Avicenna.** It easeth the pain of the spleen, but it must be outwardly applied with the dead bees; for taken inwardly it hurts both the liver and the spleen, saith Galen. When it is raw looseth the belly, but boiled with the bees, or with new cheese it binds the belly so much, that Galen holds it to be a secret against the Dysentery, and colic passions: so does Celsus, also Pliny. Hippocrates mingled honey with all medicaments that were to soften the belly. Honey mingled with wine, is a cure for the cold testicles, as Pliny saith, who also affirms that the ashes of ox leather mixed with honey, cures all running sores and chancres. Niter with honey and cow's milk cures ulcers of the face; and the froth of honey with oil of walnuts, amends the burning of the skin; is excellent for old people and such as have cold stomachs; and being led, it discusses wind, and moves urine mightily.—**Galen.** Hollerius reckoneth honey amongst diaphoretics, because it openeth and maketh passages clear: Galen placeth it amongst diuretics. It layeth down its viscosity by being mingled with water, or being boiled; and therefore Galen prescribes boiled honey, to close up ulcers that are hollow. Salt honey and honey takes away the pain of a joint that is dislocated, cusses the swellings, and makes it more apt to be reduced. I might have set down the plaster of Aetius and Aegineta called Diamelleum, the viscidum of Arden, and all syrups that were anciently made of honey, whose place the Neotericks have put sugar, but I know not by what reason. For if honey of Athens, or some as good, be at hand, and doth want its due preparation, do not use sugar that is earthy, reedy and sooty of dregs, not comparable either for use, original, or any way whatsoever with this heavenly dew honey.

Hydromel of Galen.—Take sweet, pure clean fountain water, 8 pounds, best honey 1 pound, boil them at a soft fire in an earthen vessel, take the skin oftentimes, and boil it to its thickness. If it must be drunk presently, it must be made thin as water, if it just be set up to keep, boil longer till it be thick, as a julep; if it be kept long it pierceth deeper into the parts far off, and is sooner converted into choler. Also boiling requires to it many more faculties; for being little boiled, it inflates more,

rges more, and nourisheth less. Longer boiled, it dissipates wind, nour-
th more and purges less. It is spiced at pleasure, with ginger, saffron,
ia Moschata, Lignum aloes. It is made also another way, of honey
pound, water 8 pounds, leaven 3 ounces; put all in a wooden vessel,
ing three or four fingers empty that it may work the better; when it
one working stop the vessel and let it be well hooped, and after three
ths it will be fit to drink.

Hydromel of Pliny.—Take of pure rain-water that hath been kept five
s, 12 pounds, boil it two-thirds, add to it a third part of old honey,
in the dog days set it in the sun for forty days, and letting it so stand,
he tenth day stop the vessel, this is called Hydromel, that with age
taste like wine, made nowhere better than in Phrygia. It was given
ick people that desired wine, but now it hath been forbidden for many
s.

Hydromel of Aegineta.—Take the juice of bruised quinces, 5 pounds,
tain water Sextarii, boil them till they grow soft, take them from
fire, let them cool, then strain them, and crush out the quinces, and
them away, add to this water half honey, boil it, scum it, till an eighth
be consumed; some make it of sweet apples or pears the same way.

Hydromel of Dioscorides is made of two parts of old rain-water, and
part of honey mingled, and set in the sun. Some call it Hydromel, be-
e it is wont to be made of the washing of the honeycombs with water,
it must not be made stronger, because it will hurt sick people by too
h matter proceeding from the wax. Hydromel after it has been long
, is as strong as small wines, or Lora, being but half so old. Where-
is preferred before them in abating inflammations. The use of old
heglm is condemned, for such as are inflamed or costive, but it is good
weak stomachs, and such as loath their meat, or sick people that sweat
h, or for those that are thirsty, or after a burning fever have wasted
y. Aetius describes a clyster only of honey and water to move the
y, and with the same he cleanseth hollow ulcers. Galen commends
uses Melicrate (wherein some hyssop, origanum, or thyme or penny-
ul hath been boiled,) to prepare and purge gross humors in an acute
ase, but he commends it not for the want of a stomach. Lately the
lish found out a new composition of Hydromel (they call it Varii)
ch serves better for ships than any wine. The preparation is this, Take
ey torrested after due steeping in water what you please, boil it long
; quarts of fountain water, till it tastes well of the malt: 1 pound of
boiled with 8 pounds of honey and 20 pounds of water, makes a drink
tastes most sweet, and is most healthful for use. It nourishes well,
ardly corrupted, and keeps very long.

Oinome, Spiced.—Aurelianus recommends it in the cure of sciatica.
Mulsum made of sweet new wine the Greeks call Nectar; to new
e sodden, they add a tenth part of honey; but this kind is offensive to
stomach and causes windiness; it is given to purge the belly.

use of honied wine is this: It is given in long fevers that have weak-
d the stomach with crudities collected in it. It loosens the belly gently,
rovoketh urine, it cleanseth the stomach, it is good for disease of the
ts, faults of the reins, a weak head, and to women that drink no wine,
it is pleasant in smell, and nourishes the body. It moveth vomit drunk
1 oil, and it is profitable given to them that have drunk poison; as also
such as are weak, and their pulse is feeble; for such as are troubled
1 a cough, and a short breath, or imposthume in the lungs, and those
are wasted with extreme sweating. But then it is for to mingle it
1 Hydromel. Also Galen prescribes to them Melicrate qualified with
er, that have had a shaking fit not above a week, and nature being yet
ng. Some there are that utterly condemn this in fevers; but that must
nderstood of some times in fevers. Romulus, a certain guest of Cæ-
s, being asked how he had preserved the natural vigor of his body and
d so long (for he was above a hundred years old), he answered, "With-

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out with oil, within with honey and wine sodden together, as Pollio did." That we may the more wonder at the use of Mulsum, which the Ancients esteemed very much, for that they were persuaded that all acrimony of the mind was pacified with sweet liquors, and the spirits made peaceable, the passages made softer and freer for transpiration, and that it was also physics for manners.—**Plinius.**

Also Gesner brought in an Oxyssel with Hellebore, which he commends not a little in his Greek Epistle to Adolphus Otto. To make thin, thick and clammy humors, and to root them out; but especially to make way for insensible, transpiration, that is to draw forth from the center to the superficies of the body. But you shall find everywhere featured in the Book of his Epistles, what force it hath against Melancholy, Cachexia, Dropsies, Epilepsies, and fevers, where also you have the Oxyssels made with Hellebore, both great and small.

Apomeli of Philagrius in Aegineta. It cools lightly, as Galen saith, wherefore in Phlegmone, and weariness in a fever, it is very good. It is drunk all the summer to cool the body, at which time any man may drink of it (especially when it grows sourish). It is also useful to expectorate with, to move urine, to purge the belly, and to cut thin humors. Aeginetas Ruelius.—*Mouffet, Theater of Insects, 1658, p. 906.*

MEDICINAL USES OF WAX. (MOUFFET.)

Great is the virtues of pure Propolis (Bee-glue),* upon the gross spirits, and it draws faulty matter out from the depths. **Hallerius.** It is of the nature of wax, but it powerfully draws forth. **Dioscorides.** Celsus placeth it in the number of biting remedies, saying that it digests and moves matter in ulcers. Aetius says that it heats, discusses, ripens, cleans, attracts. The cleansing force is not very strong, the attracting is strong enough, it is of thin parts, it heats in the second degree complete, or in the beginning of the third: you must first soften it with your hands before you mingle it with other medicaments and then taking the rest from the fire, put it in and boil it, for it will not well endure any boiling at the fire. It draws out all thorns and all splints that are within. **Aetius.** Varro saith, that for its manifold uses it was sold dearer in the market than honey. Maybe therefore Propolis was called holy wax, because of Via Sacra where they sold it at Rome, as Largus writes in the cure of white swellings. They draw forth thorns and such bodies sticking in the flesh, with runnet (especially of a hare) powder of Frankincense and Propolis. **Pliny.** It helps an old cough with its smell. It cures the rose with water, and roots out ringworms by anointing them. **Dioscorides.** It cures Ozænas: Serapio, Pliny 1. II. c. f. tells more of its physical use.—*Mouffet, The Theater of Insects, 1658, p. 617.*

PREPARATIONS OF APIS.

Physicians of the Homeopathic school of medicine employ a tincture of Apis, together with its dilutions and triturations, which are fully described in their works on pharmacy and therapeutics.

SPECIFIC MEDICINE APIS.

Preparation.—The only preparation we have devised is the *Specific Medicine*. It is of very complex structure, and seemingly depends on no principle of marked chemical individuality for its therapeutic

*The gummy substance with which bees stop up the crevices in their hives so as to make them perfectly dark. *L.*

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qualities. It is made by placing freshly caught live bees in a box covered with a sieve, then shaking them until they are intensely excited. The bees are now quickly put into alcohol sufficient to cover them, and digested at a warm temperature for a month. The dark colored alcoholic liquid is then decanted, and the bees repeatedly extracted with 50 per cent alcohol, until exhausted. The liquids are all mixed together and brought to a strength representing two ounces of bees to a pint.

Qualities.—This, in thin layer, has a dark straw color, but in bulk presents a deep wine shade. It has a peculiar, wax-like odor, and a sweetish taste. Increase of alcoholic percentage in its preparation decreases the color, because of failure to dissolve the colored honey products, that are soluble in water but insoluble in alcohol. The larger share of the residue obtained by evaporation of Specific Medicine Apis is a natural compound of honey or related structures extracted from the bee, and having an acid reaction. This has no established therapeutic qualities, but may yet be valuable. Indeed (see **Honey**, this treatise), it has long been highly valued, and is sometimes very energetic. Since the natural honey has always been present in Specific Medicine Apis, we propose that it shall remain a constituent of this remedy. One drop of Specific Medicine Apis responds abundantly to Fehling's glucose test. If 25 Cc. of Specific Medicine Apis be abstracted with chloroform and the chloroform solution abstracted with dilute sulphuric acid, the resultant acid solution responds to Mayer's test for alkaloids.

The diluted Specific Medicine Apis, from which all the alcohol is evaporated, when acidulated with sulphuric acid responds, although but feebly, to Mayer's alkaloidal test. The venom of the bee, intensified by the previous shaking excitation, is of course one of the structural constituents of the remedy.

The therapeutic action of Specific Medicine Apis depends upon a complexity of organic unknowns. Whoever breaks these natural structures of virus, alkaloid, glucose, etc., etc., into fragments, expecting from the use of a single fragment, the success derived from the whole remedy, is destined to disappointment. In this connection we call attention to the following article descriptive of an energetic peptic enzyme derived from honey, believing that in the present state of professional tolerance the article will merit more consideration than would have been the case before the serum crusade.

New Peptic Enzyme from Honey.—A new proteolytic enzyme was accidentally discovered in honey in the following way: A solution of honey was concerted into mead by fermentation with yeast, and some of the mead having been kept in an imperfectly closed vessel underwent acetic fermentation. The honey-vinegar so obtained was agreeable to taste, and some of it was employed in pickling some herrings, but the next day it was found that the herrings had largely disappeared; a repetition of the trial showed that the liquid dissolved a considerable amount of the herrings and disintegrated the remainder. The vinegar was then examined, to discover the cause of this action; it contained 0.033 per cent. of nitrogen; when filtered it formed a clear liquid, which remained clear when saturated with sodium chloride and gave no precipitate with solution of potassium

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ferrocyanide or ammonium chloride and only a slight opalescence with three times its volume of absolute alcohol; it slowly gave a slight flocculent precipitate with nine times its volume of absolute alcohol. It showed a strong digestive action on herring and on hard-boiled white of egg when kept in contact with them for forty-eight hours at about 20°, but had no action if previously neutralized, showing that the enzyme, like pepsin, would only act in acid solution. In order to see if it was identical with pepsin, a 0.5 per cent. solution of the latter in dilute acetic acid was allowed to act on herring and white of egg; this appeared to have a weaker action than the mead-vinegar, and was therefore allowed to act for six days; the liquids obtained in the two cases were then compared. That from the digestion contained both albumose and peptone, as was to be expected, but that from the action of the mead-vinegar contained no peptone, but only albumose, and it appears therefore that the enzyme which it contains is not identical with pepsin. It may be the same as the blood-fibrin dissolving ferment which was extracted by Erlenmeyer and V. Planta from the bodies of bees. W. Lenz (*Apoth. Zeit.*, September 7, 1910, 678).—*Pharmaceutical Journal and Pharmacist*, November 19, 1910, p. 609.

SPECIFIC USES OF APIS.

By John Fearn, M. D.:

Specific Medicine Apis Mellifica is a renal eliminant, and may be used in both retention and suppression of urine. It is one of the best remedies for rough, red rashes on the skin, that burn and sting, and under favorable conditions eventuate in urticaria and erysipelas, these conditions probably owing their cause to impaired renal elimination. Apis is the remedy in throat troubles and diphtheria with much inflammation and edema, the soft palate looking like a waterbag, with burning and stinging. The same is true in diseases of women attended by burning and stinging, or in urinary troubles, burning and stinging in bladder and urethra, strangury, a constant desire to pass urine, with much pain and straining, but with only a few drops passed at a time, tinged with blood. In dropsies, post-scarlatinal and general, where limbs and abdomen swell and pit on pressure, Apis is valuable. Most troubles that can be relieved by Apis, are made worse by heat, and are relieved by cold applications.

Indications.—Itching, with burning of any part.

Use.—In diseases of the skin; when the urine is scanty; in irritation of the bladder or urethra.

Dose.—Sp. Med. Apis, gtt. v.

Water, ℥iv.

Misce.

Sig.—A teaspoonful of the dilution every one to four hours.

Dose: (*Felter, American Dispensatory*), Sp. Med. Apis, 1-10 to 2 drops. The larger doses in dropsies; the smaller in cutaneous disorders and in vesical irritation.

PRICES OF SPECIFIC MEDICINE APIS.

¼-lb package.....	80c. each.	By mail, \$1.02.
½-lb package.....	\$1.50 each.	Not mailable.
1-lb package.....	\$3.00 each.	Not mailable.

Tela Araneæ.

(COBWEB.)

History.—Both cobweb and spiders have been generally used as a substance, by primitive peoples as an application to bleeding wounds for the purpose of stopping hemorrhage, as is recorded in the earliest works of medicine, as well as by travelers, and as recited in most books of domestic medication. Their use was known to the American Indians, as well as to aborigines generally.

Cobweb was mentioned by Dioscorides (*Aldine Edition*, 1518, 50) as a remedial agent, as shown by the following passage, translated by Miss Margaret Stewart, M. A.:

"The Spider, which some call **holcus** or **lycos**, that is, **robber**, or **wolf**, when made into a plaster and spread upon a small linen cloth and placed upon the forehead or temples, thoroughly cures tertian agues. It checks the flowing of blood, and heals the inflammation arising from ulcers, which have attacked a large area of the skin. There is also another species of spider which spins a white, slender, and abundant web. This is held in a leather pouch, and suspended from the shoulder, is said to cure tertian agues. A decoction or infusion with roses relieves pain in the ear. *Dioscorides*, II: 68.

Came then the extravagances of "authoritative" Medieval medicine, as shown in the following:

"The fly-catching spider, wrapt in a linen cloth, and hanged on the left arm, is good to drive away a Quotidian, saith **Trallianus** (sixth century, A. D.). But better if any of them be boiled with oil of bay to the consistence of a liniment; if you anoint the arteries of the wrists, the arm and temples before the fit, the fever abates and seldom comes again. **Korides** or **Koranus**.* A spider bruised with a plaister and spread on the cloth and applied to the temples, cures a tertian. **Dioscorides** (first or second century, A. D.) The spider called **Lycos**, put in a quill, and hanged in the breast doth the same. **Pliny** (first century, A. D.). That house spider that spins a thick fine and white web, shut up in a piece of leather in a nut-shell, and hanged to the arm or neck, is thought to drive away the bites of a quartane. **Dioscorides** saith he proved it to be true. Three living spiders put into oil, let them presently boil on the fire, drop some of the oil warm into the ear that is in pain, and it profits much. Or press out the juice of spiders with juice of roses, and put it in with wool. **Marcellus Empiricus** (380-408 A. D. or later). Pliny bids infuse them in vinegar and oil of roses and stamp them and then drop some into the ear with saffron and it will still the pain certainly: **Dioscorides** affirms as much. **Sofrat** . . . saith, that **Cranocolapsus** (a certain spider) drowned in oil, is the best remedy against poisons, as the Scholiast of **Nicander** (second century, B. C.) professeth.

* A king of Persia, who wrote a work on natural history.

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Aetius (about 500 A. D.) for suffocation of the mothers, applied rate of spiders to the navel, and said it did great good.

Also that knotty whip of God, and mock of all physicians, the Gout which learned men say can be cured by no remedy, finds help and cure a spider laid on.

Antoninus Pius (86-161 A. D.) was wont to say, that the quirks of phistry were like to Spiders' Webs, that had a great deal of art and genuity in them, but very little profit. But how often hath the blood run forth from the body most miserably by a fresh wound? Yet it had been easy to have stopt it by laying on a spider's web.

The spider's web is put into the unguent against Tettors, and applied to the swellings of the fundament, it consumes them without pain. **Marcellus Empiricus.** Pliny saith it cures runnings of the eyes, and laid on with oil, it heals up wounds in the joints. Some rather use the ashes of the webs with Polenia and wine. Our chirurgians (surgeons) cure wart thus: They wrap a spider's ordinary web into the fashion of a ball, and pressing it on the wart, they set it on fire, and so let it burn to ashes, by which means the wart is rooted out by the roots, and will never grow again. **arcellus Empiricus** was wont to use the web of spiders found in theypress tree in a remedy for the Gout to ease the pains.—*Mouffet, "The Water of Insects," 1658, p. 1023.*

Many of the illogical statements herein made have been brushed aside in the journey medicine has taken since that date. Let us quote as follows:

"Telia Araneorum, Cobweb.—Every one knows what this is, and how it is produced. It appears not in medicinal prescriptions, but as accident, for want of other helps, has taught its use to common people for stopping blood in a fresh wound. And this it seems to do by its extraordinary fineness; which makes it adhere to, and stop up the mouths of the vessels, so as to prevent the effusion of their contents."—*Quincy's Compleat English Dispensatory, 1749.*

"Araneorum Telæ Pharm. Edinb., Cobwebs.—These are applied by the common people for stopping the bleeding of wounds; which they effect not by any styptic power, but by adhering to the part, and closing the offices of the vessels."—*Lewis' Materia Medica, London, 1768.*

That the use of both the insect and its web were authoritatively considered as remedies, is evidenced in such works as *The New London Dispensatory*, Salmon (first edition, 1677), from the second edition of which, 1682, we quote as follows concerning the spider as a medicinal agent:

1. **"The Spider** being made into a Plaister and laid to the Wrists and temples cures Agues, chiefly Quartans. So also if they be put into a Nutmeg, and hung about the Neck. 2. **The least kind called Lycos,** applied to the Temples, Cures Tertians."

Although the date of the therapeutic introduction of cobweb and spider is lost in antiquity, cobweb has never been abandoned as a remedy, and that, too, notwithstanding the advent of cinchona, which now dominates the field in which cobweb was one of the former fa-

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vorites. Let us quote from *James' New English Dispensatory*, London, 1747:

"The web astringes and conglutinates, and is, therefore, vulnerary; restrains bleeding, and prevents inflammation. The country people have a tradition, that a small quantity of spider's web, given about an hour before the fit of an ague, and repeated immediately before it, is effectual in curing that troublesome, and sometimes obstinate distemper. This remedy is not confined to our own country, for I am well informed that the **Indians** about **North Carolina** have great dependence on this remedy for agues, to which they are much subject; and I am acquainted with a gentleman long resident in those parts, who assures me he was himself cured by it of that distemper. And, indeed, experience confirms the efficacy of this medicine in the cure of agues."—*James, New English Dispensatory, London, 1747.*

To the above we add from *Motherby's Medical Dictionary*, London, 1775:

Aranea, called also arachne, araneus, the catcher, the wolf, and spider.

As is common to most insects, spiders abound with volatile oils, in consequence of which they are sometimes useful in agues, if taken inwardly. A scruple of the spider's web hath, in many instances, been given with success, an hour before the fit of an ague, and an hour after it. This produces no sensible effect, and may be given when the bark is not safe.—*Motherby's Medical Dictionary, London, 1775.*

This opinion concerning the harmlessness of cobweb, and its efficiency where cinchona is "not safe," voiced in different ways threads both domestic and professional publications preceding 1800. Together, it all forms the foundation for the more rational and restricted use of cobweb, or Specific Medicine TELA ARANEÆ, which may be traced to and into recent literature, as follows:

In 1821, N. M. Hentz published, in the *Journ. Acad. Nat. Sciences*, pp. 53-56, an article on "The Spider whose web is used in medicine," from which we quote the introductory paragraph:

"It has been found lately, that the web of a species of spider, common in the cellars of this country, possesses very narcotic powers, and it has been administered apparently with success in some cases of fevers."

In his paper, Mr. Hentz not only adds nothing to previous recorded uses of cobweb, but, by mistake, the wrong spider is figured in the plate accompanying his paper.

Close following, in 1831, John Redman Coxe, in his *American Dispensatory*, gives to cobweb a full page of fine print, from which we extract as follows:

"It would scarcely be supposed that this article would have engaged the attention of physicians, as useful in the *Materia Medica*; and it may serve to show how little capable we are of estimating the value of anything in this respect, except by experience and observation. It seems to have been long overlooked that it was formerly employed—and has lately been again introduced to notice. The following notices from different works contain the principal facts I can collect relative to it:

"In the *Medical and Physical Journal*, vol. 21, p. 353, will be found an interesting paper on this subject, by Dr. R. Jackson, in which he states

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the success of Dr. Gillespie, of Edinburgh, in curing an obstinate intermittent with cobwebs, after other means had failed. He was led from this to try it himself, and has given several instances of its perfect efficacy, even when of long continuance; and he is led from those cases 'to consider cobweb as possessing the power of suspending the course of intermittent fever with great certainty.' And elsewhere he concludes, that it 'possessed an extraordinary and altogether an inexplicable power in calming irritations, and in diminishing the excess of bodily torments'—hence he was induced to try it 'in the deliria, pains, spasms, and subsultus, common in fevers of the continued class.' The effect far exceeded his expectations. He likewise effected perfect cures in some troublesome spasmodic affections; and gave it with the most marked benefit in dry, irritating coughs, usually termed nervous, singly, and sometimes conjoined with opium. In the advanced stage of phthisis, it procured a respite beyond his expectation, one particular case of which he details. He further found it useful in restraining a troublesome hiccough. And he concludes by affirming, 'that cobweb diminishes morbid irritability, and calms irritations of both body and mind, in a degree far exceeding any drug or remedy within the circle of our knowledge.'—*Coxe's American Dispensatory*, 1831.

The *United States Dispensatory*, first edition, 1833, gives cobweb due remedial credit, citing several well known authorities. This view of the remedy was continued, in substance, throughout subsequent editions, with the added sentence that cobweb, stuffed into the cavities from which teeth have been extracted, stops the flow of blood.

"It is affirmed that the web of the field spider is inefficacious, while that collected in cellars of houses, etc., has extraordinary medical virtues. Several authors speak in very decided terms of its powers as a febrifuge and antispasmodic. According to Dr. Robert Jackson, it is superior even to bark and arsenic in the cure of intermittents, and is, moreover, highly useful in various spasmodic and nervous diseases, controlling and tranquilizing irregular nervous action, exhilarating the spirits, and disposing to sleep without producing any of the narcotic effects of opium on the brain. These praises are to a certain extent echoed by Dr. Chapman and Dr. Eberle, in their respective works on Therapeutics and Materia Medica. Among the complaints in which it has been found useful, besides intermittent fever, are periodical headache, the hectic fever of consumption, asthma, hysteria, and nervous irritations attended with morbid vigilance and irregular muscular action. It will be observed, that these are, for the most part, affections over which the imagination has much control. The dose of spider's web is five or six grains, to be given in the form of pill, and repeated every three or four hours. Dr. Jackson states that its influence is not in proportion to the quantity administered, and that he obtained the same effects from ten as from twenty grains. This might well be, if the supposition be allowed, that its chief operation is through the mind of the patient. Spider's web has also been used externally, with asserted advantage, as a styptic in wounds, and a healing application in superficial ulcers. Spiders themselves were formerly employed in the treatment of intermittent fever, and the application of the web to the cure of this disease is not a measure of recent origin."—*United States Dispensatory*, 1834.

King, in the first edition of his *Eclectic Dispensatory*, under the head *Tela Araneae*, aims to balance the subject, as follows:

"The medicinal species of spider from which the web is obtained is the *Tegeneria medicinalis* of this country, which are found in cellars, barns, and other dark places; they are of a brown or blackish color. The web of the field spider is said to be of no account, medicinally, while that of the house spider is reputed to possess extraordinary virtues. There are

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various opinions among medical men as to the *modus operandi* of the cobweb, some attributing it entirely to the control of the imagination, while others view it in a different light, and entertain favorable opinions of it as a powerful therapeutic agent.

"Properties and Uses.—Febrifuge, sedative, and antispasmodic. Said to have been found useful in the cure of intermittents when all other agents have failed; also recommended in various nervous and spasmodic diseases, for the purpose of controlling and tranquilizing irregular nervous action, exhilarating the spirits, and disposing to sleep, without any narcotic action on the brain, as in periodical headache, hysteria, asthma, chorea, hectic fever, and nervous irritations attended with morbid vigilance and irregular muscular action. Dose, is five or six grains, every three or four hours, in the form of pill. Externally, it is asserted to have been advantageously employed as a styptic in wounds, and a healing application in superficial ulcers.

"The small silver-headed spider, given in a dough pill, is said to be a prompt and efficacious cure for ague."—*King's Eclectic Dispensatory, 1852.*

Mr. Thomas J. Graham, London, in his *Modern Domestic Medicine* states:

"The cobweb of cellars, barns, and stables, is a valuable remedy for ague (see **Ague**); and it also allays diseased irritability, and calms irritation, both of body and mind, often in a surprising manner. If it operates well, when the pulse is quick, frequent, irregular, and irritated, it becomes by its influence, slow, calm, and regular. Some American physicians who have taken it, say it produces a calm and delightful state of feeling, succeeded by a disposition to sleep. It will thus often tranquilize much better than opium or henbane, and its soothing properties point it out as a valuable palliative in the advanced stage of consumption—in asthma—in chronic hysterics, and in other spasmodic complaints.

"Cobweb is an old and popular remedy for the present fever, and it is as efficacious as popular. Some writers speak of it as a mere dirty object of vulgar superstition; but they are much mistaken, for ten grains of cobweb given twice or thrice before the expected time of each paroxysm, and continued in this way for three or four days, or longer, as circumstances indicate, will be found a powerful means of putting an immediate and permanent stop to the recurrence of the ague. The patient should, however, be prepared for its use by the previous employment of emetic, and purgative, as prescribed before beginning the bark. The only valuable cobweb is that produced by the black spider, which inhabits cellars, barns, and stables. It is sometimes very effectual in arresting the progress of the febrile symptoms in every other kind of fever. Dr. Jackson (*Dr. Jackson on Fever, p. 241*), a physician of acknowledged accuracy, and great experience in the treatment of fevers, observes, that it is more abrupt and efficient in its operation than bark, or arsenic, or any other remedy employed for the purpose, with which he is acquainted."—*Graham's Modern Domestic Medicine, 1858.*

The foregoing summarizes the therapeutic progress of cobweb, from the day of Dioscorides to and into the last century. The works of a multitude of authors might have been cited, each being about the same as the others. In it all, excepting in Homeopathic therapy and pharmacy, which are to be credited with much literature concerning spiders and their webs, as well as with explicit differentiation as regards the species to be used, it will be observed that (even by Dr. Jackson), *the cobweb, itself, in substance*, was used, in the form of a pill, or powder.

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The original article of Dr. Robert Jackson, so often referred to in the foregoing articles, appeared in *The Medical and Physical Journal*, London, England, in May, 1809. In that year cobweb was revived as a therapeutic agent, through a discussion in the British medical journals, following the aforementioned article by Dr. Jackson, from which we extract and condense, as follows, using, for historical purposes, the language of the author.*

By Dr. Robert Jackson:

"The spider's web (vulgarly cobweb) is known to many of the common people as a cure for ague and fever; but I believe that few of the regular practitioners have yet employed it on that, or any other account.

"In the year 1800, the late Dr. Gillespie, physician in Edinburgh, a man of sound professional judgment, and of great candour and sincerity of character, mentioned to me, by accident, that once, when baffled by the obstinacy of an intermitting fever, he had recourse to this vulgar remedy; and with the most perfect success. In the same year, and soon after I went to Chatham to the army depot, I met with some intermittents, which, if suspended for a time by bark or arsenic, were still liable to recur, and which I did not on that account consider as effectually cured, or disposed to be

* Dr. Robert Jackson enjoyed a conspicuous reputation in clinical practice, as well as in an official position in the English Army and Navy service. He began his professional career in 1774, in charge of the medical department of the first battalion of the 60th regiment in the island of Jamaica, although he had been a practitioner of medicine, in a general sense, preceding that date. In 1778 he volunteered for service in the war with America, and was attached to the 71st regiment. He made a specialty of the study of fevers, in which his service in Jamaica and the southern portions of America gave him exceptional opportunities. In 1791 he published "*A treatise on the Fevers of Jamaica, with Observations on the Intermittent Fever of America*," embodying therein the results of his studies between the years 1774 and 1782, together with his studies thereafter to the date of publication. He next traveled over a great portion of Europe, surveying medical and literary institutions, establishing himself finally at Stockton-upon-Tees, in the County of Durham.

At the time of the French Revolution, in 1793, Dr. Jackson took service with an expedition under the command of General Sir George Gray, accepting the Surgeoncy of the third regiment of foot, then embarking for the West Indies, where he hoped to study tropical fevers, but in this he was disappointed, by the deviation of the regiment to Flanders, where he had the opportunity of studying contagious fevers, instead. In 1795, before he had the opportunity of publishing his observations on contagious diseases, he was ordered to the Island of Saint Domingo, where he studied endemic diseases, writing continuously his observations of the history of diseases and clinical cases at the bedside. In 1798 he published the results of his fatiguing researches, under a long title, including *Fevers, Contagious and Endemic, Yellow Fever*, etc., etc.

In the year 1799 he was appointed superintendent of medical concerns of a body of 17,000 Russian troops. His success in this direction led to his appointment as head of the Army Depot Hospital, in Chatham, from which he subsequently resigned, retiring to his former residence at Stockton. In 1803 he published a work on the Medical Department of the British Army and its Hospital Management, with an Appendix concerning fevers and the operation of remedies in effecting a cure. This work was followed, in 1805, by "*A System of Arrangement and Discipline for the Medical Department of Armies*."

In 1811, Dr. Jackson returned to the army medical service, engaging therein in the Barbadoes and other islands and colonies. In 1815 he returned to England, and issued a further study of the *History and Cure of Febrile Diseases*, followed, in 1820, by a two-volume work, largely devoted to tropical and other fevers. In 1819, the yellow fever having broken out in Cadiz, Dr. Jackson sought service in that location. Failing to secure an appointment, he traveled through the Orient, visiting such places as Constantinople, Smyrna, and the islands of the Archipelago, studying fevers, the plague, and similar diseases. In 1825 he published an article on *Epidemic Yellow Fever*, as it appeared in the Southern coast of Spain since the year 1800, thus completing almost a lifetime in the study of febrile diseases, although continually experienced in the direction of general medicine and medication.

Dr. Robert Jackson died on the 6th of April, 1827, in the seventy-seventh year of his age.

He was exceptionally entitled to credit as an authority on fevers, for which reason authorities in all schools of medicine gave him due recognition, even into the present day, as is evidenced by the continual references to Dr. Jackson's commendation of cobweb as a fever remedy, in every phase of literature concerning that disease. This fact also renders it just that his report on cobwebs should not be passed without due regard to his experience and balanced opportunities in that direction.

Do not confuse this Dr. Robert Jackson, whose publications appeared from London, with the Dr. Robert Jackson, also an eminent authority, whose publications appeared from Edinburgh; nor yet with Dr. Samuel Jackson, of Philadelphia, who, in the beginning of the last century, formulated the compound known as "Jackson's Cough Syrup," yet lingeringly prescribed throughout America.

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effectually cured by these customary and ordinarily powerful means. But I shall state the case briefly, that you may be enabled to judge more correctly of the result. Serjeant Anderson, a respectable soldier, has been long harrassed by this complaint, and though he had been treated with all care and attention, there was yet no fair prospect from all the trials that had been made, that the disease was to be soon overcome. I was interested for the man on his own account, and I was also disappointed at the failure of my own endeavours; for intermitting fever was a disease of which I had had much experience, and, in accomplishing the cure of which, I had seldom failed. The obstinacy of the case brought to my mind the fact which had been mentioned to me by Dr. Gillespie; and as I thought myself perfectly safe in giving credit to Dr. Gillespie's testimony concerning the power of the cobweb, I desired that some of that substance should be carefully collected from the cellars, and made into pills of five grains each. As I was desirous to ascertain the effect precisely, and from my own observation, I administered, with my own hand, one pill about two hours before I expected the recurrence of the paroxysm, and two more a few minutes before the usual time of the paroxysm's return. The patient was ignorant of the nature of the substance that was given to him, and thus could not be supposed to be acted upon through imagination; yet the effect was perfect. The usual periods past without return, or without the most remote feelings of it; and though I considered the disease as cured, yet as it had been of long continuance, and had considerably enfeebled the powers of the constitution by its continuance, I recommended a furlough on account of change of air, so soon as I was satisfied that its course was completely arrested. Besides Anderson there were then three others in the hospital ill of intermitting fevers. These cases were also untractable; and as the success of the cobweb had been so decided in the instance of Anderson, I was desirous to ascertain the extent of its virtues by farther experiment in theirs. I accordingly administered, with mine own hand, a pill to each of the persons alluded to, about two hours before I expected the return of the paroxysm, and two more a few minutes before the time at which it had been accustomed to return. The success was perfect in all the three.

"A soldier of the Buffs, recently returned from the West Indies, was brought to the hospital, as having had a severe paroxysm of fever the preceding day. I have no note of what was done for him on the day on which he was received; but next day, while I was visiting the patients in the ward in which he lay, I observed the commencement of his paroxysm, and I perceived it was marked by such collapse and ghastliness, that, had I not known the nature of the case, I should have been apprehensive that the man was in the act of dying. I immediately gave him a cobweb pill (for a dispenser of medicine attended while I visited; and cobweb pills were among the hospital formulæ); in less than a minute he was perfectly tranquil; he even expressed comfort and satisfaction in himself that appeared unaccountable, and which I must confess surprised me, the change being sudden and complete, as if from the effect of a charm. The pulse was now calm and orderly; a very gentle but warm perspiration took place immediately, and health was instantly restored.

"I have thus noticed, in a cursory manner, the power of cobweb in preventing the recurrence of the intermittent paroxysm, in allaying the irritations, and in suspending the course of the paroxysm when actually begun, and in tranquilizing patients who are irritable in the extreme in other conditions of fever, viz., outrageously delirious, or otherwise agitated in body and mind. I now farther add, that the trials were extended, and that perfect cures were effected in some troublesome spasmodic affections; even that respite was procured in others that were fatal in themselves, and that seemed to stand beyond the reach of other means. I have thus given cobweb, with the most marked benefit, in cases of dry, irritating coughs, usually termed nervous, sometimes singly, sometimes joined, and I think advantageously joined, with opium.

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"I have also given it in advanced stage of phthisis, where it procured a respite, of which I could scarcely have entertained expectation. I mention a case in detail, that you may obtain a better idea of the nature of the effect. A young man, of a consumptive family, was attacked with what was considered to be a cold, about last Easter. The complaint went on to increase, and when I saw him, which was in the month of August, phthisis was completely confirmed; the pulse was small and frequent, rarely, if ever, under one hundred strokes in a minute, sometimes far above that number; the flesh wasted fast; the strength was greatly impaired; the expectoration was in great quantity, and decidedly purulent; the cough was extremely troublesome; the voice hoarse, and withal, there were occasional pains, or stitches, in the sides and breast. The hectic was perfectly established, and no person could, in conscience, entertain any reasonable hopes of recovery. Emetics and blisters repeated at intervals, with other means commonly known and usually employed in similar cases, procured occasional respites, but they made no decided impression on the course and character of the disease. About the beginning of October, the distresses were urgent; the cough was almost incessant, so that the young man had scarcely any rest during the night; the pulse was so frequent, and at the same time so small, that it was scarcely possible to number it; the legs swelled as high as the knees, and the strength declined rapidly. His friends were anxious in the extreme for relief, and the apothecary who attended him, and who had exhausted all the means from which relief is usually obtained, wrote to me, soliciting strongly that I would think of something that might mitigate his sufferings, for to give a favorable turn to the course of the disease was not expected. The tranquilizing effects of cobweb occurred to me on this occasion, and I suggested to the apothecary, who was a man of discretion, to prepare some pills of five grains each, and to give one of them at bedtime, or at any other time when cough or pain were distressing. He did so, and in about ten days I received a letter from him, stating that his patient was so much improved, that his friends were in great expectation of his doing well, and requested that I would visit him (the distance was near thirty miles), to satisfy them on that head. I went to see him, in compliance with the request of the parents, and found, on inquiry, that he had rested tranquilly the first night after he took the cobweb, and tolerably well the most of the succeeding; that the irritation and distressing cough had abated; that the expectoration had not diminished materially in quantity, but that it came up easily, that the strength had improved, and that the swelling of the legs had nearly disappeared. The mitigation of the symptoms was obvious, but the disease still existed.

"A gentleman of my acquaintance had for several months been extremely indisposed; the complaint complicated, but the nature of it not clearly understood. The joints, particularly the knees, were swelled, and extremely painful; the flesh was much wasted; there were frequent chills and occasional feverishness, especially towards evening; the pulse was small, irritated, and frequent; the appetite was, notwithstanding, better than might have been expected; the tongue was clean; the eye clear; the thirst considerable; there was evident hectic, but it was difficult to say on what it depended. There were suspicious, indeed, marks of a venereal taint, and he was kept under the influence of mercury for six weeks or two months, during which time the pains in the joints increased; the flesh wasted fast; and he was reduced to a state of great weakness; distressed, at the same time, by restlessness and want of sleep. Fidgetting, irksomeness, and desire of change of posture were extremely annoying. In bed he had no rest, it not being in his power, during the greater part of the night, to keep his limbs in one posture for ten minutes at a time; nor was he sensible that he had slept two hours at once for the last three months."

In this case, which had resisted all other remedies, Dr. Jackson prescribed cobweb, and reports as follows:

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"He rested calmly till morning; and, in repeating the pill afterward, he uniformly found that, though he might not actually sleep, he was not only enabled but disposed to lie in one position till the morning. He observed to me that, when he took opium, his mind was engrossed with some foreign object, his attention was thereby diverted from his local pains and uneasiness, but that he was much disordered next day; that when he took cobweb, of the nature of which he was ignorant, his mind was his own, but the sensations of pain and uneasiness were blunted, or obliterated, in a manner he did not understand, and that next day he felt no inconvenience of any kind."—*London, No. 3 Canton-Square, March 20th, 1809.*

In these early observations by Dr. Jackson, we have the therapeutic effect of cobweb contrasted with that of opium.

Came now into the discussion Dr. James Scott, surgeon of the English Navy. From the *Medical and Physical Journal*, London, Vol. XXII, pp. 369-370, and 371-375, we reproduce as follows:

"Andrew Yeaman, aetat, 19, trumpeter in the Staff-Corps, was embarked on board the ship in the late expedition against Flushing, and had laboured under intermitting fever nearly a month, by which he was much emaciated, and reduced to an alarming state of debility. He had been stationed at Hythe, where I understand intermittents are very prevalent (in consequence, it is believed, of the vicinity of the Royal Military Canal), and by his own account had taken large quantities of bark with wine and opium. Those medicines had never, in the slightest degree, shortened the duration, nor diminished the severity of the paroxysms, and seemed to have produced no other effect than, probably, that of preventing the fever from degenerating into a more continued type, or changing its period of accession. The intermissions, in this case, were most distinct, and unattended with any symptoms indicating disease, except extreme weakness, and a more ghastly paleness of the countenance than I had ever witnessed.

"As I was most anxious to give the cobweb a fair trial, I requested my assistant (Mr. Farkey) to be particularly careful in observing the patient's state and the effects of the remedy, both which he watched with the utmost assiduity; and I feel much pleasure in adding his testimony in behalf of its utility. A quantity of cobweb, not exceeding eight or nine grains, was gathered from the bread-room, and made into pills; one, consisting of five grains, with sufficient mucilage of gum arabic to form it; and the other of the remaining cobweb, prepared in a similar manner. The five grain pill was given on an empty stomach, a little after eight o'clock in the morning (being two hours previous to the expected period of accession), and the other at the usual hour of the paroxysm, which was not felt at all. It may be proper to state, that no other medicine was given with the cobweb; and it will appear, that he did not take nearly the quantity prescribed by Dr. Jackson, as the ship was at sea, and I could not procure more than I have mentioned. The paroxysm never returned; but a slight rigor was felt about the second period from the exhibition of the cobweb, and easily yielded to two grains of opium, followed by bark and sulphuric acid, which completed the cure. As far as I could learn, arsenic had not been resorted to on this occasion.

"Walter Sands, Esq., purser of his Majesty's ship *Camilla*, has been afflicted for many years with a very distressing asthma, which has proved fatal to his father, and called to an early grave two beautiful and accomplished women, his sisters. As the complaint appears to be hereditary, and in this gentleman to be aggravated by mal-formation of the thorax, no remedies gave any permanent relief, nor did change of climate procure any alleviation of symptoms. He has taken, at various times, under the direction of eminent physicians, the foxglove in every form, with all other medicines which have been recommended; and frequently in a kind of despair,

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has resorted to almost every empirical composition from which he could expect advantage; but in vain.

"For a considerable time back he has never been able to lie down in his bed, on account of a sense of suffocation, which he always experiences in a horizontal posture, but is obliged to be supported half-sitting by pillows, and even then is tormented to such a degree by incessant cough, so violent as often to induce vomiting, that he can seldom sleep before two or three o'clock in the morning, and his slumbers are often interrupted. About three weeks ago I was witness to his sufferings, which came on, on board the ship, after he had been dining with me, and I much regretted that I had no cobweb to administer, as I was well aware of the inefficacy of all other medicines in his case. I however mentioned the subject to him, and the following day he collected nearly a scruple of the spider's web, which he swallowed at bedtime, and to his utter astonishment, enjoyed sound and uninterrupted sleep all night; a blessing to which he had been an entire stranger above six years. Since he began the cobweb, he thinks his health is improved; the cough has certainly abated; but he finds much difficulty in procuring a sufficient quantity of the web, and whenever it is omitted the complaint returns."—*James Scott, Surgeon, H. M. S. Euryalus, off Dungeness, Sept. 18, 1809.*

To the discussion Dr. Jackson contributes again as follows:

"That cobweb is capable of stopping the course of intermittents is as well proved as any fact in physic; but it is also true that it acts powerfully in all the other conditions noticed in my paper of May; and I may add, in many others that I omitted to mention. I shall trouble you with only one testimony. In the month of last June, an army physician, who exercises his profession in civil life, and to whom I was little known, accosted me, and took the opportunity of mentioning that he had employed cobweb in a troublesome case, in consequence of what I had said of it in the *Medical Journal*. The case, he observed, was one of pain, distress, and watchfulness, of unusual obstinacy. The cobweb was ordered faithfully prepared and administered. The effect appeared to have surprised the patient; for he called upon his physician next morning to say that he had not passed a night with so much comfort in six years. The remedy was repeated, and it always gave ease and tranquillity, though the patient did not always sleep."—*Robert Jackson, M. D., Castle Edeh, Durham, Sept. 19, 1809. From the Medical and Physical Journal, Vol. XXII, pp. 369-370.*

Then came an interval of several decades, in which *Tela Araneæ* was largely neglected, this period of rest being broken, 1865, by the following article in Jones and Scudder's *Materia Medica*, soon followed by another important contribution to the therapeutics of *Tela Araneæ*, by Dr. L. M. Jones, in the *Lancet and Observer*, Cincinnati.

In asthma it is said to allay irritation, tranquilize the system, and act like a charm. In spasmodic complaints of females; in chronic hysteria, and other diseases attended with morbid irritability of the nervous system, it has been advantageously employed. Dr. Webster, of Boston, has found it beneficial in rheumatic affections of the head, asthma, and chronic coughs. He says it produces a pleasant delirium and exhilarating effects resembling the nitrous oxide gas. Dr. Gillespie used it in obstinate intermittents successfully, after other remedies had proved ineffectual. He thinks it more effectual than bark, arsenic, or any other remedy he has employed.

Dose.—Gr. v to vj, in pill; repeat every three or four hours. Dr. Jackson thinks a dose of gr. v produces nearly the same effects as one of gr. xx. —*Jones and Scudder's Materia Medica.*

By L. M. Jones, M. D.:

"Having had some experience with this remedy lately in those troublesome affections, I give it for the consideration of the readers of the *Lancet and Observer*.

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"I will give the history of a case of chronic intermittent that came under my care, and the treatment in the same, in order to compare *Tela Araneæ* with other remedies given.

"In December, 1874, I was called to see Nellie P., age 10, suffering with tertian intermittent fever, with which trouble she had been afflicted for over two years. She was of a bilious temperament; very much emaciated icterus hue of skin and conjunctiva; abdomen distended, which in palpation disclosed an enlarged liver and spleen, the latter extended to the crest of the ileum, and could be easily traced through the abdominal parietes; bowels constipated and relaxed alternately, urine very highly colored, with frequent desire to urinate, especially during the febrile stage; cough troublesome, but on examination could not detect disease of the lungs; heart during the paroxysm and subsequent reactionary fever exhibited great irregularity of action; œdema about eyes and face.

"Paroxysms occurred regularly every third day; cold stage lasting from one to two hours; fever from six to eight hours; pulse 120 per minute; skin hot and dry; patient delirious, with nervous twitching of limbs; respiration hurried; fluttering of heart; great thirst and at times sick at stomach; during the high fever, incontinence of urine, which passed in great quantity and of very offensive odor. During the intermission the patient would be up and about the house. It was evident from the length of time that the patient had been afflicted, the deranged condition of the system, and the grave character of the symptoms, that I had one of those perplexing chronic intermittents to treat, which annoy and discourage the patient from the long delayed relief. As several reputable physicians had treated her without success, and ague specifics had been tried in vain, I was fully aware that I had a harassing case on hand, and withal one not devoid of interest.

"Without saying more, I will give the course of treatment that I pursued. I give the prescriptions numbered in the order that they were used in the case, with the exception that they were sometimes refilled with other treatment to suit indications (all of which failed).

"1st. $\mathcal{R}$ Liq. Potassae arsenitas, dr. iv; Fld. Ext. taraxaci, fl. oz. iss; Syr. simplex, oz. i. M. S. Teaspoonful after each meal and at bedtime.

"2d. $\mathcal{R}$ Chinoidine, dr. ii; Nitric acid, dilute, dr. i; water, oz. i. M. S. Take five to eight drops in water every four hours.

"3d. $\mathcal{R}$ Quiniae sul., grs. xxx; Arom. sul. acid, oz. ss; Tinct. gelsemium, oz. i; Liq. potassae arsenitas, dr. iii; Tinct. menth. piperitis, oz. i. Syr. simplex, oz. iii. M. S. Teaspoonful every four hours.

"4th. $\mathcal{R}$ Ext. eucalyptus globulus, oz. i; Ext. glycyrrhiza, oz. i. M. S. Teaspoonful every two hours. Of this she took two bottles in succession.

"5th. $\mathcal{R}$ Tinc. iodine, dr. iii; Fld. ext. taraxaci, oz. ii; Syr. lemon, dr. v; Syr. simplex, oz. i. M. S. Teaspoonful after each meal and at bedtime. She took two bottles of this in the course of treatment.

"I gave quinine freely for several days in succession, compound chinoidine pills, composed of chinoidine, sulphate of iron, and piperine; I gave cathartics, including calomel in full and broken doses. This treatment was kept up for several months, alternating from one to another, when I thought necessary to make a change. And yet, I could not break up the paroxysms longer than one week, when they would return, and this intermission would occur at long intervals.

"I then prescribed the following tonics:

" $\mathcal{R}$ Quiniae sul., gr. xxx; Mur. tinct. ferri, dr. iii; Phos. acid, dil., oz. ss; Syr. lemon, oz. iii. M. S. Teaspoonful every four hours.

"She was kept on this prescription for two or three weeks, when her mother came to me and stated that Nellie's chills were getting worse, and that if I could do anything for the child, to do it. What to do next was the question. The decision was—try cobweb.

"I carried the medicine to my patient, and left the following directions: Begin four hours before the expected chill, and give a teaspoonful every hour, until she had taken four doses, then a teaspoonful before each meal and at bedtime, until all was taken. The medicine was given as directed. The anticipated chill came, but was very light compared with the others.

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This, however, was the last chill she had, which has been over four months since.

"Her general appearance has improved, color of skin is clear, the spleen has returned to nearly its natural size, bowels regular, appetite good, in fact the child has so far improved that her friends call her well.

"The patient and relatives did not know what she was taking, and are still ignorant on the subject, so that the mind of the patient had nothing to do in the performance of the cure.

"I gave her the second bottle of the medicine, to be certain that the cure was effectual.

"I have since used the remedy in other cases, with the same success, and would ask that the profession give the remedy a trial in the various intermittents. I will offer no comments on the case that I have cited, or give any theory as to the action of the remedy, but shall leave the reader to his own views. I gave a history of the case, because I considered it an interesting one in several particulars; also was particular in giving the treatment, that a comparison might be made in the remedies used and the results obtained; and that the reader might see for himself that the treatment adopted by the writer was a varied one. I will add in conclusion, that either of the prescriptions given will break up an ordinary case of intermittent fever, chronic or not."—*Lancet and Observer, Cincinnati, April, 1876. Reproduced in Ecl. Med. Jour., May, 1876.*

The paper of Dr. Jones was reproduced in the *Eclectic Medical Journal*, May, 1876, and led to a continued use of Tela Aranæ in Eclectic medication, as well as to a closer study of its field of action. The many wanderings of the olden time were finally ignored, and the use of Tela was restricted to the conditions named by the following physicians, of extensive practice and experienced observation:

By C. Pierce, M. D.:

"The properties given in the **American Dispensatory** are febrifuge, sedative, and anti-spasmodic. Said to cure intermittents when all other medicines had failed, also recommended in nervous affections, to relieve pain, lessen spasmodic action, and cause sleep without any deleterious narcotic influence.

Professor I. N. Goss says that Tela Aranæ is a direct remedy in periodical fever of a hectic type, persistent ague with nervousness; or hysterical complications with a full pulse; oz. ss to aqua iv. dose dr. i. Dr. Skershaw, of St. Louis, who has used this remedy for some time, says that Tela has done me excellent service in some old cases of asthma, in which other remedies had failed to do a particle of good, some bronchial coughs too were relieved by it, with surprising rapidity. I find it also of great benefit in persistent sleeplessness, the patient becoming quiet in a short time, and passing into a light, natural sleep, from which he awakes invigorated and refreshed. The whole action of the remedy, as given by the different observers, so nearly corresponds with my own experiences as a whole, that I am induced to give a few cases that I have recorded in my practice.

Case 1. Male, aged 2 years, with a dry, whistling cough, spasmodic in character, resembling whooping cough, with intermittent fever, no perceptible chill. Relieved in one day, and cured in three days.

Case 2. Male, aged 4 years, had terrible, irritable, spasmodic cough, parents supposed it to be whooping cough; cured with Tela in 24 hours, also the intermittent fever in connection with it.

Mrs. B. had sudden weakness come on her, followed by cold, chilly crampings, numbness of the extremities, when sitting still or lying down; sexual orgasm at night; sudden weakness, and aching pains in pelvis. extending slightly over the whole body, commencing at dark and lasting until midnight; very nervous. Tela removed the whole symptoms in 48 hours.

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Mrs. T., age, 43, in her climacteric period, had sudden hot flushes that came over her several times a day, followed by cold sweat, cold extremities, and chilly sensations. Tela relieved her in two days.

Mrs. W., age, 41, attacked with uterine and left ovarian pains; very severe crampings, and remitting pains, with cool, clammy perspiration, cold extremities, previously affected with nocturnal orgasm, sudden nervous affections, and frequent metrorrhagias. A few doses of Tela stopped the pains, and the flow ceased in a week's use of the medicine.

Mrs. D., aged 45, in her climacteric period, had sudden twitching of facial muscles, sexual irritability, nocturnal orgasm, formation and sleeplessness. Prescribed Tela, which relieved her in a few days.

Miss O. had complained of headache for ten days, from occiput to temple on the right, running to forehead, worse at night. Prescribed Tela. Headache removed within 24 hours, and no return.

James W. has for several days had hot flushes to come up suddenly, several times a day, followed by cold sweat, cool extremities, with chilliness. Tela relieved him in six hours.

George N. had weak spells that came on irregularly several times during the day, and regularly at six P. M.; also sudden aching pain in the pelvis, extending more or less over the body, lasting until midnight, with great nervousness. Cured in 30 hours with Tela Araneæ.

George H. had weak spells that came up suddenly with air puffings in his ears; would last half an hour, then were succeeded by cold perspiration, and cold extremities. Was relieved in 24 hours of all symptoms by the use of Tela; continued medicine for three days and no return.

Mrs. F. had typhoid fever, third week, with cold extremities, sore aching pains in spots, worse in left foot and ankle, commencing after dark; in an hour after, followed by a severe, increasing headache in the right side, worse in the last half of the night. At four P. M. muscles of the neck stiff, and severe aching pain in terigo-mastoid, and temporal regions to occiput, cool, moist perspiration, cold extremities. Three drops of tincture relieved her immediately.

Mrs. H. complained of palpitation of the heart, pulse unaltered, cardiac oppression, with cool, moist skin, and cold extremities. Prescribed Tela, with immediate relief.

Miss B., ovaritis, and slight metritis, following abortion, with periodical pains coming on at 3 P. M.; prescribed quinine for the periodicity, which only anticipated the time of the paroxysm that came up at one P. M., with aggravations; then I learned for the first time that previous to her confinement, she had numb spells, and extreme weakness that came on her suddenly, this being among the best symptoms that indicate the use of Tela, which I prescribed. Relieved entirely in two days.

Chas. S., afflicted with sudden, painful palpitation of heart directly followed by smothering, profuse perspiration, and cool extremities; had been often troubled with numbness, removed by massage. Prescribed Tela, with quick relief.

Mrs. J. W. was taken suddenly ill with uterine colic, like extreme abortion pains, sharp and constant, with nausea and rigors like the commencement of the second stage of labor, cold extremities, the os cervix tender to the touch, hard and congested. Five drops of tincture of Tela removed it in five minutes, while other reliable medicines failed.

John D., with pain in heart, came on suddenly with smothering respiration, numbness and cold extremities, pulse small and weak, followed by cool perspiration, and the paroxysms were periodical. Tela relieved him promptly.

Miss Ida P. was troubled with cough when she was lying down, with a tickling behind the sternum, a cold, oppressed feeling in the chest, and numb sensations. It seemed as if much phlegm should be raised, but it could not. Tela relieved all symptoms.

Mr. M. Em., an old toper, reforming under treatment from his last delirium. Commences suddenly at 3 A. M. to have a cool sensation running

from the small of the back to the end of the penis, with an irresistible desire to pass urine, and from that time until 6 A. M. he passes from one to one and a half gallons of clear, light, straw colored urine, composition very slightly acid, no sugar, no albumen, and rapid decomposition. Tela in three-drop doses every three hours relieved the paroxysmal flow when other medicine of good repute failed.

The specific indications for Tela are these, viz.: masked periodical diseases in hectic, broken down patients. In all diseases that come up suddenly with cool, clammy skin and perspiration, cool extremities; in nocturnal orgasms in either sex. Numbness of the extremities when sitting still or lying down. It relieves spasm of the arterioles, and stimulates capillary circulation. It relieves hyperesthesia of the cerebro-spinal nerves, and the great sympathetic, that depends on debility. It is the greatest heart stimulant in the materia medica, and Lobelia is second only to it.—*Eclectic Medical Journal*, November, 1886.

By Herbert T. Webster, M. D., Oakland, Cal.:

The experience of the writer with this remedy has been very much to its credit. Though it has failed him occasionally—or he has failed to apply it properly—he is convinced that Grauvogl enunciated a lasting benefit to the profession in his exploit with Tela. He has afforded us a central truism, around which much substantial knowledge has been built with clinical experience. Within the past few months, two of the most honored practitioners of our State, Drs. Fearn and Munk, upon separate occasions, have signified their high appreciation of this remedy, in various conditions marked by persistent chilliness.

This symptom appears to be the keynote for its use, though we should dissociate the proposition from the idea that the prolonged chilliness must necessarily belong to an ague, or malarial manifestation. Unless this is done, we are liable to neglect it almost completely; for so many better and more reliable remedies for intermittents are in vogue that we can never expect to win renown with it in this field, though when specifically indicated, it is as applicable in malarial conditions as in any other, according to my experience. The writer, however, has obtained most satisfactory results from it, possibly because he became better acquainted with it in a district where intermittent fever is unknown, unless imported; though it may be mentioned, in passing, that periodicity is rather a significant indication for Tela, though not the leading one. Periodicity, it is to be remembered, does not always indicate malaria. There are exceptions to all rules, and to this rule there are a number.

Whenever a case presents, be it acute or chronic, in which the patient finds himself prone to continual chilliness, unable to get comfortably warm by the aid of proper clothing, apartment and fuel, Tela is the first remedy to be thought of. The demand for it is emphasized if the skin is continually cool and clammy, and if the chilliness is quickly aggravated by dampness. A patient in this condition presents us with what Grauvogl designated a "hydrogenoid constitution," or condition, and this is his specific indication for Tela. We ought, then, to regard the phrases, "cool, clammy skin," and "hydrogenoid condition" as synonymous in their meaning, in this connection, both being specific indications for Tela.

As an illustration of what is meant by the application of Tela to the "hydrogenoid condition" by Grauvogl, one of his cases may be related. A chronic inflammation of the heel, in an old man—probably due to involvement of the petriosteum of the os calcis—resulted in abscess, and later on in a sloughing ulcer. The ulcer was very painful, and arnica was given to relieve the pains, but without much effect. The ulcer continued to deepen, and resort was had, alternately, to silica and calcarea carb., but aggravation still persisted. The patient was constantly chilly, and the pains increased and decreased periodically. Tela was administered, and improvement speedily followed.

Do we understand the *modus operandi* by which Tela corrects this

clammy chilliness, this hydrogenoid condition, with its accompanying complaint? Hardly. Would it be profitable to speculate upon the matter? Possibly. Does Tela operate through the vasomotor centers, either by relaxing the arterioles or by vivifying the capillaries, and thus improve conditions by imparting a sensation of agreeable general warmth to the hitherto clammy, chilly patient? It acts gradually, so the effects are not to be expected in a minute after administration. A few days of its use, however, will suffice to produce results.

Evidence exists that Tela is a marked neurotic, and that it can hardly be directed exclusively to the vasomotor centers. It is accredited with curing dry, spasmodic cough, stimulating pertussis, and sometimes asthmatic cough; of relieving climacteric flushes, and hot flushes in both sexes, followed by clammy sweat; twitching of the facial muscles, formication, numbness of the extremities, hyperesthesia and insomnia, sexual irritability and nocturnal orgasm, cardiac palpitation with angina, and headaches, all come under its curative influence, when accompanied by the hydrogenoid condition of Grauvogl; especially if periodicity be manifest, and the subject be inclined to neurasthenia.

To illustrate more forcibly the place for Tela, I will quote Dr. O. S. Laws, of Los Angeles:

"There are many cases which need simply that and nothing more. A case came under my care, in 1894, for sundry ailments of the sexual organs, but the most annoying symptom of which she complained was chilliness, and 'cold, clammy sweat,' as she termed it. She was constantly going about, but could not get on wraps enough to prevent the chilliness.

"From what I had read in Dynamical Therapeutics concerning Tela, and from my own use of it in a variety of cases, I prescribed it for her: I put dr. i to oz. iv. of water, and she took one teaspoonful of the dilution four times a day. Relief began in a few days, and before the second bottle was gone no extra wraps were needed, and she was benefited in other ways. She has not complained of the chilliness since.

"I use Tela—Specific Medicine, of course—in all cases where numbness is complained of, and the results are so prompt and surprising that it seems like fiction to speak of them."

Resumé.—Tela is specifically indicated in debilitated subjects of neurotic tendency, with cool, clammy skin, protracted sensation of chilliness with or without nervous complication, especially where periodicity is in evidence. Given when the keynote, **chilliness**, long continued, is present, it is liable to remove accompanying neurotic complications, at the same time that it corrects the faulty condition of the circulation.—*Eclectic Medical Journal*, Oct., 1907.

By John Fearn, M. D.:

"Dr. Webster has done the profession a service by his timely article on this remedy in the October Eclectic Medical Journal—a service that I ought to have rendered long ago, but have been prevented by adverse circumstances. To put the matter briefly: A few years ago my health was very much below par, and the chief disease expression was this surface and general coldness. As I walked on the street I saw men in their shirt sleeves, seeming very comfortable. I was warmly dressed and had on an overcoat; but was uncomfortably cold. I had always worn light-weight underwear, but had to change to warmer, without much advantage. In bed the clothes were piled on until the weight was oppressive; but it was the only way I could be comfortable. The old adage says, 'The man who is his own doctor, has a fool for a patient.' I have been my own doctor and family doctor with success. But in this case I failed. I consulted Dr. Webster, and he said, Tela Araneæ is your remedy.' I at once began its use, ten to fifteen drops of Spec. Med. Tela Araneæ in four ounces of water, teaspoonful every three hours. The improvement was remarkable and quick, and it has been permanent.

"Now for the cause of my trouble: The previous winter had been very

wet, and my duties in my home town were strenuous, in addition to which I had patients in the adjoining towns. To get there I had to cross a marsh, where for some years scavengers had dumped city refuse. The excessive rain seemed to cause a bad stench from this rotting mass, which the breezes from the Pacific Ocean were powerless to neutralize while the rain lasted; and it was this exposure, day after day, which I believe was the cause of my trouble.

"Now, for the *modus operandi* of its action, let me say: The poison affects seriously the nervous system, acting, it seems to me, on the heart through the cardiac plexus, thus weakening the central circulatory organ, and giving rise to a poor peripheral and capillary circulation. Hence blood depravement; hence cold surface. TELA ARANEÆ, by strengthening the heart, improves the condition of the nervous system. Dr. Webster has well pointed out the specific indications for the use of this remedy. Use Spec. Medicine TELA ARANEÆ under these conditions, and you will succeed."—*Eclectic Medical Journal*, Dec., 1907.

After the advent of the Eclectic school of medicine in America (as indicated in the extract from Jones and Scudder's *Materia Medica*, and the articles by Drs. Webster, Fearn, and others, pp. 31-37), came

the restudy of cobweb, or rather, led finally to its more definite as well as restricted application, as shown in its method of employment at the present time. Nor, as shown by the article of Dr. Jones, from the *Lancet and Observer*, (pp. 31-33), has the remedy been altogether neglected by the dominant school.

THERIDIUM TEPIDARIORUM.

(From Blackwell's British Spiders.)

The Spider that spins the web used in making Specific Medicine TELA ARANEÆ.

SPECIFIC MEDICINE TELA ARANEÆ.

The form of the remedial preparation commended by physicians named in this Treatise is the Specific Medicine, described herein. This has ever been made from the web of *Theridium tepidarium* (*see cut*), which builds its web in barns and similar locations. We have no personal experience

with the web of the spider inhabiting cellars, often named in the foregoing pages as being employed by early investigators.

Characteristics.—Two minims of this preparation represent one grain of cobweb. It has a rich straw color, an odor of alcohol, and its evaporation is accompanied by vapors of an offensive, stifling odor. Successive evaporations of 10 Cc. each gave an average residue of 0.058 Gm. (58-100 of one per cent), a result which varies somewhat in different batches. The residue is of a resinous appearance, and is destitute of alkaloids. It is largely soluble in chloroform, less so in

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ammonia, and is nearly insoluble in either water or acid water. 50 Cc. of Specific Medicine Tela Araneæ, diluted with its bulk of water, and distilled to 5 Cc., gave a transparent distillate of an organic odor, free from alkaloids, and neutral to litmus paper. The residue in the distilling flask had a brown-red color, and an offensive odor, reminding one of putrid organic matter. This likewise failed to react with alkaloidal reagents.

No more can the examination of such a substance as Tela Araneæ by ordinary chemical processes be viewed as of any great importance, as concerns its utility in the therapeutic field, than can its hypodermic injection in animals in health portend or limit its therapeutic possibilities in the human being in disease.

Specific Uses.—Dr. J. A. Munk, of Los Angeles, Cal., than whom, possibly, there is no more experienced or carefully qualified observer in therapeutical directions, made the statement in a recent conversation, that he had long used Specific Medicine Tela Araneæ successfully in the treatment of cases where the long continued use of cinchona, quinine, arsenic, and other like remedies had resulted in failure. He stated that patients from the Eastern States sent to his section of California, and afflicted with sleeplessness, nervousness, or malarial attacks unreachable through the usual remedies, responded under the use of Tela Araneæ, which he considers invaluable in such conditions. Where the indications were pronounced, he has found the results of its administration to be surprisingly prompt.

The specific uses of Tela Araneæ, as recorded by Dr. L. A. Perce, of Long Beach, Cal., who also has had great experience in the treating of this class of patients, is condensed into a small compass, as follows:

Uses.—Specific Medicine Tela Araneæ is a sedative acting upon the nervous system and circulation. It is said to have cured intermittent fever when all other remedies had failed. It relieves spasms, lessens pain, and promotes sleep. It has been used in delirium and subsultus of continued fevers, and in hiccough and dry nervous cough, hysteria, periodic headache, asthma, restlessness, insomnia, and muscular spasms. Specific indications as given by Dr. Perce are:—"Masked periodical diseases in hectic broken-down patients; in all diseases that come up suddenly with cool, clammy skin, and perspiration, and cool extremities; in nocturnal orgasm in either sex; numbness of the extremities when sitting still or lying down. It relieves spasms of arterioles and stimulates capillary circulation. It relieves hyperesthesia of the cerebro-spinal nerves and the great sympathetic, that depends upon debility. It is the greatest heart stimulant in the materia medica, and lobelia is second only to it.

Dose: Sp. Med. Tela Araneæ, gtt. v to gtt. x in a little water, three times a day. In urgent cases, every hour.

PRICES OF SPECIFIC MEDICINE TELA ARANEÆ.

¼-lb package.....	75c. each.	By mail 97c.
½-lb package.....	\$1.40 each.	Not available.
1-lb package.....	\$2.75 each.	Not available.

Spongia.

(SPONGIA USTA).

"The sponges were formerly regarded by many naturalists as belonging to the vegetable kingdom. They are now regarded as compound animals by all, and by many as being even higher than the Protozoa, having close analogies with the Radiates."—*Elements of Zoology, Sanborn.*

Both sponge and its ash have been valued in medicine from a very early date, as shown by the following excerpt from Dioscorides Translated and condensed by Miss Margaret Stewart, A. M.

"Fresh sponges, and those most free from oils, are helpful for wounds and to check tumors. With water or vinegar, they bind up (literally, **glue together**) fresh wounds, while, cooked with honey, they join together old wounds. Old sponges are useless. But even these are of value in softening up callouses and separating ulcers that are growing together, if bound upon them, dry, with a linen cloth. Fresh sponges placed upon old ulcers full of corruption dry them up. They also check the flow of blood

"Burned with vinegar, they are useful in inflammation of the eye; also where there is need of a detergent or astringent. But it is better to tincture the ashes with the remedies to be used for the eye. The ashes of sponges burned with pitch check the flowing of blood."—*Dioscorides, V: 138*

History. Spongia Usta (Burnt Sponge).—This preparation known in Dioscorides' day, and in subsequent medical works and Dispensatories as *Spongia Usta*, was once included among the most important of remedial agents. Not only did it occupy a prominent position in the works on domestic medicine, but in authoritative professional publications generally.

The third edition of the *London Pharmacopœia*, 1751, gives explicit directions for its preparation as follows:

Heat the sponge in a covered vessel, till it becomes black, and is easily friable; then reduce it to powder in a glass or marble mortar.

Remark.—The heat here used must be much greater than in the former process; but, however, care should be taken not to burn the sponge till its volatile salt be expelled, for so doing would reduce it to a mere coal; but the volatile salt is so much extricated from the other principles by this operation, that if it be rubbed to powder in a brass or bell-metal mortar it is very apt to acquire from the vessel a taint, that will offend the stomach.—*From Dispensatory of the Royal College of Physicians, London, 1751 (3d edition).*

This substance crept as a matter of reference into many modern works, but its general use was abandoned very soon after the discovery of *iodine* and the compounds of iodine.

It will be noticed in the above formula that the sponge, after being burned, is to be powdered in a mortar of stone or glass, to pro-

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test against taint. This feature is more fully explained in *Lewis's Materia Medica*, London, 1768, wherein the foregoing formula, in substance, is given as follows:

Burnt in a close, earthen vessel, till it becomes black and friable, it has been given in doses of a scruple against scrophulous complaints and cutaneous defecations; in which it has sometimes been of service, in virtue, probably, of its saline matter, the proportion of which, after the great reduction which the other matter of the sponge has suffered in the burning, is very large. By virtue of this saline matter also, the preparation, if ground in a brass mortar, corrodes so much of the metal, as to contract a disagreeable taint, and sometimes an **emetic quality**: hence the college expressly orders it to be powdered in a mortar of glass or marble.—*Lewis's Materia Medica*, London, 1768.

It is evident, as experience thus taught, that an emetic compound of copper was produced when a brass mortar was employed.

Coeval with such authorities, as well as others preceding and following, Burnt Sponge maintained its position as a remedial agent. Of this, a quotation from Motherby, giving the uses of Burnt Sponge, together with directions for preparing the drug, is sufficient as an illustration:

Spongia is used in scrophulous disorders, and cutaneous foulnesses, for which end it is reduced, by lightly burning it, to a black powder, which is given in doses from gr. x to xx, two or three times a day; its virtues, which render it useful in these disorders, depend on a volatile, animal, alkaline salt (with which it abounds), and the oil of the **sponge** united.

When **sponge** is cut in small pieces, and freed from the stony matters which are lodged in it, it is burnt in a close, earthen vessel until it is black and friable, and when being powdered in a stone or a glass mortar, it is kept in a close vial for use. The burning should be discontinued as soon as the matter becomes thoroughly black; as the outside of a large quantity will be sufficiently burnt before the middle is much affected; the best method is, to cut it in small pieces, and keep it continually stirring in such a machine as coffee is roasted in.—*Motherby's Medical Dictionary*, London, 1785. (*Second Edition*.)

In 1812, M. Courtois, of Paris, in manufacturing soda, observed that the mother liquors from *kelp* corroded the boilers. In experimenting therewith he discovered the element, iodine. Close following came the fact that sea plants generally, as well as some of the lower forms of animal life of the sea, contained more or less iodine. The new element not only became a fashionable remedy for "scrophulous diseases," but led to the supposition that, as before stated, it alone constituted the remedial portion of Burnt Sponge. Thus, such authorities as *Christison*, in his *Dispensatory*, 1848, asserts:

Sponge contains a trace of combined iodine, and before the discovery of this element and its compounds, was, in the charred state, a remedy in scrofula and goitre. Its use internally, however, is now obsolete.

Indeed, it may perhaps be accepted that the discovery of iodine, and its occurrence in sponge, led the professions of medicine and pharmacy, *theoretically*, to displace Burnt Sponge with iodine and its

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compounds. For example, the *Dictionary of Domestic Medicine*, Thompson and Smith, 1868, assumes as follows:

Burnt sponge was formerly considered the best remedy in cases "bronchocele." It is now known that its power of removing that disease depended on the presence of iodine.

Notwithstanding this and other positive assertions concerning iodine phase of the subject, Burnt Sponge continued, as a therapeutic substance, to occupy authoritative position. For example, the *Pharmacopeia of the United States*, 1830 edition, gave it a position, but thereafter. The first edition of the *United States Dispensatory*, 1833, commented on it as follows:

The sponge is decomposed, the volatile matters being driven off by heat, and a black, friable coal remaining, which consists of charcoal mixed with phosphate and carbonate of lime, chloride of sodium, carbonate of soda, and iodine in the state of hydriodate of soda. As the remedial value of burnt sponge depends chiefly upon the presence of iodine, it can not be esteemed good unless it afford purple fumes when acted on by sulphuric acid, assisted by heat. It is said that the preparation is most efficient as a remedy when the sponge is kept on the fire no longer than is necessary to render it friable. The powder is then of a much lighter color. Burnt sponge has been highly commended in goitre, glandular swellings of scrofulous character, and obstinate cutaneous eruptions. It is most conveniently administered mixed with syrup or honey, in the form of an electuary, with the addition of some aromatic, as powdered cinnamon. The dose is from one to three drachms.—*United States Dispensatory*, Wood & Bache, 1833.

The first edition of the *Eclectic Dispensatory*, King and Newton, 1851, gives the current uses of Burnt Sponge and its compounds, but neglects its assay constituents. In the second edition, 1854, the analysis is added, as follows:

In 1,000 parts of sponge, 343.848 were dissipated by calcination; the remainder consisted of 327.0 parts of carbon and insoluble matters, 112.0 of chloride of sodium, 16.43 of sulphate of lime, 21.422 of iodide of sodium, 7.57 of bromide of magnesium, 103.2 of carbonate of lime, 35.0 of phosphate of lime, 4.73 of magnesia, and 28.72 of oxide of iron. The efficacy of burnt sponge depends principally upon the presence of iodine, and it should always be used when of recent calcination, as it becomes impaired rapidly in consequence of the volatilization of the iodine.—*King's American Eclectic Dispensatory*, 1854.

While Professor King thus accepts the prevailing opinion that Burnt Sponge depends upon iodine and its compounds for its virtue, he wisely qualifies the assertion by stating that it depends "*principally*" upon the presence of iodine, in which direction Professor Wood, in his *Dispensatory of the United States*, above alluded to, 1833, stated that the remedial value is due to the presence of iodine, and likewise qualifies his statement by the word *chiefly*.

Owing to the intrusion into therapy of iodine, and to its conspicuousness, the natural compound known as *Burnt Sponge* largely disappeared from professional use, excepting in the Homeopathic and Eclectic practice of medicine, where iodine and iodine compounds have

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ever been viewed as things in themselves, Burnt Sponge being considered as a compound in itself. For example, *Allen's Inscripta of Pure Materia Medica*, Vol. 9, devotes eleven or more pages to its therapeutic use, whilst other Homeopathic pharmacopeias, such as that of the *American Institute of Homeopathy*, 1879, and the *United States Homeopathic Pharmacopeia*, 1878, devoted due attention to the preparation of the drug, as well as its dilutions and triturations.

In this connection, it is evident in that in former times more or less questionings arose concerning the possibility of displacing Burnt Sponge by mixtures of charcoal and alkaline substances then known to be present in it. That these attempts thus to brush the remedy of old out of existence were failures is shown by a statement of the Royal College of Physicians, London, 1809, only two years before the discovery of iodine.

"Burnt sponge appears practically to produce effects which no mixture of the alkali and charcoal does, especially in the removal of bronchocele; and it is therefore retained."

Constituents.—Burnt Sponge contains a large amount of combined iodine, not "a trace" as Christison states. One minim of the Specific Medicine represents one grain of sponge, and (see Characteristics, p. 43) a fragment of a minim will give a deep blue color with starch paste. In addition bromine, phosphorus, sulphur, and other elements in unknown combinations go to make up Burnt Sponge. Whoever reasons concerning the action of compounds made up of such substances as unknown combinations of the elements that theoretically may be formulated into chloride of sodium, calcium sulphate, sodium iodide, magnesium bromide, calcium carbonate, calcium phosphate, magnesium and iron oxides, unknown sulphides, and phosphates re-organized from organic tissue and reconstructed by heat from complex organic bodies, presumes much in asserting that such combinations depend solely for their qualities upon a single substance that may by destructive chemical processes be isolated from the original product. The intermolecular constitution of Burnt Sponge is to-day *unknown*, and the part iodine takes in the therapy of that substance is also unknown.

Let us repeat that in our opinion the balanced structure, a complexity in itself, that results in the empirical production of the compound known as Burnt Sponge, can not be molecularly established by any theoretical computation made from a review of the isolated constituents thereof. Consequently, the uses of this preparation by physicians who employ it in contra-distinction to iodine or its compounds, are accepted as logically applying to a structural something, *molecularly unknown*, that must be very different from iodine, or a single iodine compound.

Pharmaceutical Preparations.—The uses of Burnt Sponge are recorded in the foregoing extracts, as well as in a multitude of like publications. The use in Eclectic medicine has been centered mainly on the alcoholic solution known as "Specific Medicine Spongia," in

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which one pound of Mediterranean natural sponge is burnt according to the old Pharmacopeial directions, and this triturated with alcohol while still hot. The mixture is allowed then to digest until all soluble material is extracted, when it is filtered. This preparation varies somewhat in composition, owing to differences in the sponge but in general qualities it acts uniformly, as a whole.

Sponges are possessed of some form of mineral skeleton, calcareous, siliceous, and horny. They also enclose foreign substances which aid in giving them stability. These latter substances may be largely separated, mechanically, and magnesium and calcium salts may be dissolved by dilute acids. For the making of pharmaceutical preparations, the natural Mediterranean sponge, only, by this writer, is employed, never sponge that has been acid-cleaned, or chlorine-bleached. Scrap sponge (soft trimmings) is also very inferior, yielding little ash, and that of a poor quality. The whole sponge, carrying the best attachment should be employed, the ash of several bales of such sponges running from 30 to 36 per cent. Such a natural (Mediterranean) *Spongia Usta* may be described as follows:

Spongia Usta varies, not only by reason of the sponge constituents, but through process influences. If the sponge be burned by allowing air to enter the vessel and thus produce a flame, or if the temperature be at first very hot and the process soon ended at a high heat, so as to dissipate all possible volatile constituents, the product is inferior. The combustion process must be a slow, *smothering* manipulation, in which, by a gradually raised heat in a vessel provided with a smoke exit, the product comes mainly to a gray-black or brown color. Throughout this charred, soft, pulverulent texture are to be found silvery specks of mineral matter, and even calcined shell, of considerable size. The odor of the ash reminds one of burnt coal of marine nature. The taste is strongly saline, accompanied by a persistent, sulphide of hydrogen odor, and a sulphuret (sulphide) after taste. Treated with sulphuric acid in a covered beaker glass; effervescence follows, and violet fumes arise that change starch paper to a deep blue.

THE SPECIFIC MEDICINE SPONGIA.

Characteristics.—This preparation has a golden yellow color, and the odor of alcohol. Each minim represents one grain of sponge. The evaporation of 10 Cc. leaves about 0.58 per cent. of a crystalline residue, yellowish, and of a saline odor and taste. When in a beaker glass (covered by a watch crystal) sulphuric acid is poured over the residue effervescence follows, the mass assuming a violet color, by liberation of iodine, in places being very dark brown. The beaker becomes next filled with the characteristic violet iodine fumes which change starch paper to blue, or even to brown. On standing, the iodine fumes condense on the cover glass and the cooler parts of the beaker as minute needle-like crystals. If the sulphuric acid treated mass is exhausted by 10 Cc. chloroform and filtered, a deep violet red solution results, which on spontaneous evaporation yields minute iodine

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crystals. If upon the contrary the residue be treated with alcohol, the solution is deep yellow, but carries the iodine. Both solutions turn starch paper dark blue, changing to brown. If a few drops of starch paste be spread over the bottom of a porcelain dish, one drop of a mixture of Sp. Med. Spongia and sulphuric acid in its center, will develop a blue color of varying degrees of intensity in accordance with the proportion of the ingredients.

Therapeutical Uses.—In consequence of its neglect by many teachers, as well as by reason of the quickly and yet illogically accepted premise (on the discovery of iodine) that one element, and one only, contributed to its efficacy, the use of *spongia usta* has been restricted mainly to the Homeopathic and Eclectic members of the American medical profession. These physicians also use iodine and its compounds when they are indicated, but they do not neglect "*Spongia*," as is shown by the confidence that experienced practitioners have in its clinical use, and that, too, a hundred years after the discovery of iodine. The Eclectic uses of Spongia, as given by Dr. George M. Hite, who uses the preparation extensively, are tersely expressed, as follows:

Uses.—Spongia gives better results than iodine, in the more chronic forms of goiter. It is useful in chronic pharyngitis with thickening of the mucous membrane. In acute hoarseness from colds, it is the very best remedy of which I know, but it is chiefly as a croup remedy that I have used it. In follicular tonsillitis, Spongia is a most excellent remedy, and combined with other indicated remedies, as aconite, phytolacca, and bichromate of potassium, will relieve in half the time the same prescription would, without the Spongia. It is a fine remedy in laryngitis, with burning, smarting, raw sensations, as it is also in tubercular laryngitis, relieving the teasing cough, and improving the health of the mucous membrane, overcoming the hoarseness, and improving the voice. I have used Spongia for many years, and always with specific results.

Indications.—Croup, with rough, barking, crowing, cough; stridulous respiratory sound during inspiration, with dry cough; loud wheezing respiration, with suffocative fits of coughing; inability to breathe except with the head thrown backward.

Dose.—℞ Sp. Med Spongia.....gtt. x to xxx.
Aqua Dest.3̄ iv.

M. Sig.—A teaspoonful every fifteen to thirty minutes, to one to two hours, as urgency of symptoms demands.—*Geo. M. Hite, M. D.*

PRICES OF SPECIFIC MEDICINE SPONGIA.

¼-lb package.....	Soc. each.	By mail, \$1.02.
½-lb package.....	\$1.50 each.	Not mailable.
1-lb package.....	\$3.00 each.	Not mailable.

Cantharis. (Cantharides)

"The beetle, *Cantharis vesicatoria* (Linné), De Geer. Thoroughly dried at a temperature not exceeding 40° C. (104° F.)"—U. S. P.

The name *Cantharis*, or *Cantharides*, was applied by ancient Greek writers to many coleopterous insects, their use in medicine dating back to a very early period. Hippocrates speaks of their internal employment in dropsy and amenorrhea, while *Cantharis* is also mentioned in the writings of Dioscorides, Galen, and Pliny. According to Motherby's *New Medical Dictionary*, 1775, the remedy was once called "*French flies*," but inasmuch as the insects were exported largely from Spain as a commercial drug, they became (Motherby) generally known as *Spanish flies*. The systematic study of the living insect is of interest to the entomologist only, but it may be added that several species of the beetle have vesicating qualities, in consequence of which fact they have been known as "Blistering flies."

As is to be expected, the early record of this remedy made of it a favorite with those who believed that the art of curing disease depended upon and rested in the driving out or in the drawing out of "devilish secretions." Consequently, the early records of American medication teem with directions for the production of blisters by means of this energetic product of the insect world.

In the days of the apprenticeship of this writer as a pharmacist, in Cincinnati (four years, beginning 1863), the blister plaster was one of the sheet anchors in "authoritative" medication. The art of cutting and of spreading a *Cantharides* plaster for application to a designated part of the body, as for example, behind the ears, over the chest, along the spine, etc., was then a necessary requirement to pharmaceutical expertness. Whosoever has seen a patient tortured by the excruciating process of a blister can comprehend that the barbarisms practiced upon the American people during the supremacy of this drug overtopped the misery endured by those who suffered in the War of the Revolution. Happily the viciousness of this form of medication no longer prevails in the treatment of any American physician. Obsolete, as is also true of the majority of its barbarous co-laborers of the past, is *Cantharides Blister*, that devilish relic of Mediæval medical "authority."

As an example: About the middle of the last century, in Petersburg, Ky., the writer's brother, N. Ashley Lloyd, then eight years of age, was overcome by the heat while fishing, and carried to his home. Good old Dr. Graves (well named) was called, and as the first

step to "authoritative" medication he immediately bled the boy. He next applied a Cantharides plaster over the entire back, from the neck down, and administered *blue mass* as a fortifying agent. This treatment, "fortunately" (according to Dr. Graves), "acted promptly and admirably," the back of the child becoming, within the specified time, a monstrous blister, the serum possessing (as is its nature) a most virulent power of vesicating whatever flesh it touched. This was shown, as the writer can testify, by its creeping action upon the sides and limbs of the boy. Near to death's door, struggling for life, the sunstruck child hovered long on the brink of eternity, the question each day being, whether he would be alive the day that followed. Excruciating was his agony. The pain he suffered brought tears to the eyes of all who saw him or heard his cries. The memory of that event, vivid to-day in the mind of the writer, became one of the factors that led to a lifetime of crusading in behalf of kindness to the sick, as opposed to medication wrongs and cruelties, whether instituted "by authority" or otherwise. Happily between that period and the present the old-time barbarisms, then "authoritative," have largely disappeared.

No longer does the physician, in the case of a sun-struck child, a consumptive girl, or a fever-parched man, apply the Cantharides blister, the tartar-emetic or the Croton oil vesicant, as a "first step" in professional treatment.

Let the description of the foregoing case, that yet vividly appeals to the writer, excuse his dislike of the very word *Cantharides*, which yet brings mental torture. With these remarks, let us pass to the uses of Cantharides in the days of its professional glory, as recited in *Coxe's American Dispensatory*.

Medical Use.—Cantharides have a peculiar nauseous smell and an extremely acrid, burning taste. Taken internally, they often occasion a discharge of bloody urine, with exquisite pain; if the dose be considerable, they seem to inflame and ulcerate the whole intestinal canal; the stools become mucous and purulent; the breath fetid and cadaverous; intense pains are felt in the lower belly; the patient faints, grows giddy, delirious, and dies. Applied to the skin, they first inflame, and afterwards excoriate the part, raising a more perfect blister than any of the vegetable acrids, and occasioning a more plentiful discharge of serum. But even the external application of cantharides is often followed by a strangury, accompanied with thirst and feverish heat.—*Coxe's Amer. Disp.*, 9th ed., 1831, p. 172.

Let us seek now, more directly, the Mediæval uses of the Cantharides blister, as voiced "authoritatively" in the first edition of the *United States Dispensatory*, 1833.

Blisters are calculated to answer numerous indications. Their local effect is attended with a general excitement of the system, which renders them valuable auxiliaries to internal stimulants in low or typhoid conditions of disease; and they may sometimes be safely resorted to with this view when the latter remedies are inadmissible. The powerful impression they make on the system is sufficient in many instances to subvert morbid associations, and thus to allow the re-establishment of healthy action. Hence their application to the cure of remittent and intermittent fevers, in which they often prove effectual, when so employed as to be in full operation at

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the period for the recurrence of the paroxysm. On the principle of revulsion, they prove useful in a vast variety of complaints.

Perhaps the pain produced by blisters may be useful in some cases of nervous excitement or derangement, in which it is desirable to withdraw the attention of the patient from subjects of agitating reflection.—*United States Dispensary*, 1st ed., 1833, p. 155.

In order, however, that it be not accepted that all physicians and authorities of former times were concerned in the use of this barbarous treatment, we refer to the caution given in Quincy's *Compleat English Dispensary*, 1749, as follows:

It is not every one who must think himself qualified to meddle with such remedies, which are sure to do good or hurt, according as they are adapted. There are some ill persons who have learn'd to procure abortions by these flies; and to play a great many other unwarrantable tricks with them.—*Compleat English Dispensary*, 12th ed., 1749, p. 155.

Connected with this is the further caution in the same work, as follows:

The perpetual blister-plasters, which are so much advertised, are nothing else but the common epispastic, drest with an unguent, in which the cantharides are finely powdered and mixed; therefore those who value themselves upon it as a secret, either abuse themselves or other people.—*The Compleat English Dispensary*, 12th ed., 1749, p. 211.

The fact that serious after-consequences followed the indiscreet use of this vicious vesicant, is further illustrated in Motherby's *New Medical Dictionary*, 1775, as follows:

However used, they are apt to produce a strangury, and inflammation of the urinary passages; to prevent which, when blisters are applied, some rub scruple i. or scruple ii. of camphor, in fine powder, on the surface of the plaister; but this requires also the assistance of nitre, oily drinks, soap pills, &c. Washing the blistered part when dressed, with warm milk, greatly relieves these symptoms.

Sometimes blisters laid to the thighs, or calves of the legs, have produced a gangrene, because a flux of humours is very easily invited to these parts; therefore should not be applied to them when they are œdematous, but rather to the inside of the arms, wrists, nape of the neck or head.—*Motherby, A New Medical Dictionary; or General Repository of Physic*, 1775.

Such as the foregoing led to the attempted antidotal treatment, both of the ill effects of the Cantharides blister and of poisoning therefrom. Perhaps Eberle's *Therapeutics*, 1847, covers this phase of the subject as satisfactorily and as briefly as any, in the face of the fact that there is neither a chemical antidote nor a therapeutic antagonist that will overcome the ill effects of either an excoriating blister or of a destructive stomach disintegration:

The strangury produced by cantharides is best obviated by copious draughts of bland liquids, such as flaxseed tea, gum Arabic water, decoctions of barley, melon seeds, &c.

In cases of poisoning from cantharides, it has been recommended to exhibit large doses of sweet oil; but the experiments of Dr. Pallas and

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Orfila prove that this is an exceedingly improper remedy in accidents of this kind. According to the experiments of the latter, cantharides macerated in cold oil, will, when exhibited to dogs, kill them in a few minutes. This depends on the property which oil possesses of dissolving the active principle of cantharides.*—*Eberle's Materia Medica and Therapeutics*, 6th ed., 1847, pp. 523, 524.

The writer hopes that the foregoing extracts from "authority" of former days will not serve as an inducement to a revived use of this nearly obsolete agent, but rather as a warning, in which the professional reader may, in thankfulness, recognize that such mistaken ideas of therapeutic torture, under the term "professional care," are no longer customary.

PHARMACEUTICAL PREPARATIONS

Physicians of the olden time (see preceding pages) relied largely on the virtues of Cantharides blistering plaster in which the powdered fly, in unctuous mixture, was used in substance. Such a medicament has been official in the various world's Pharmacopeias from an early date. The *tincture* of Cantharides, still^o official in the Pharmacopeia of the United States, has been thus recognized, and employed both externally and internally. Seldom, however, do we find a prescription therefor at the present date other than in very small amount, insufficient to produce marked local irritation. About fifty years ago a preparation known as Cantharidal Collodion became very popular as a liquid blister. In the enthusiasm of its introduction it became official, and is still a cumberer of the pages of the Pharmacopeia, a lingering relic of mediæval barbarism. In case there be, in the physician's mind, an occasional necessity for a blister, especially if this be in a part of the body where it is difficult to place cantharidal plaster, the Cantharidal Collodion is markedly superior to cruder forms. However, the use of Cantharides in any form, either internal or external, is now practically obsolete in the practice of most physicians.

Specific Medicine Cantharis.—In days gone by, the Eclectic school in medicine used Cantharides very conservatively for specific purposes, and in exceedingly^d small doses, never in heroic amounts. Specific Medicine Cantharis represents one-half grain of Cantharides to the minim, the dose and uses being summed up as follows by Drs. Ellingwood, Fyfe, and Watkins:

THERAPY.—In small doses this agent is in use in the treatment of cystitis and bladder irritations, accompanied with tenesmus and constant desire. It is serviceable in enuresis when there is relaxation of the bladder walls, and lack of control of the sphincter, especially in that common to relaxed plethoric women, when upon their feet, and when coughing.

It is of some benefit in the treatment of dropsies, especially of those following scarlet fever, and diabetes in its later stages.

It is occasionally beneficial in eczema and acne, when accompanied with uterine or vesical irritation, or with amenorrhea. In small doses it is prescribed in sub-acute or chronic gonorrhea or gleet.

**Journal de Pharmacie*, November, 1822.

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NOTE.—Powerful vesication is seldom deemed advisable by our physicians as local stimulation by heat or mustard is usually found sufficient. The formation of large blisters or blebs is deprecated, as inducing depression and local pain and general irritation, usually out of all proportion to the benefit derived. The abstraction of the serum from the blood, which contains almost as much albumin as the blood itself, amounts to but little less than actual blood letting. Extreme blistering, even by physicians addicted to most heroic measures, is largely relegated to the past.

When counter irritation, derivation, or local stimulation seems to be needed, we have recourse to local heat, dry or moist, always short of burning, mustard, capsicum, and other agents named in other chapters for their revulsive action, as croton oil, and other oils, thapsia, chloroform, ether and ammonia, confined, and dry cupping.—*Ellingwood's Materia Medica, Therapeutics and Pharmacognosy.*

Cantharis in very small doses exercises a stimulating influence upon the genito-urinary organs, and especially upon the mucous membranes of the bladder and urethra. In these small doses it is promptly corrective when there is burning, stinging pain, strangury or tenesmus of the bladder, but its long-continued use, even in medium doses, may produce strangury, albuminaria or hematuria.

The most dangerous effects of this drug have sometimes been produced by its administration in large doses for the purpose of producing an aphrodisiac result. No less than poisonous doses can possibly produce sexual excitement.—*Fyfe's Specific Diagnosis and Medication.*

The indications for Cantharis, as given by Fyfe and Watkins, are as follows:

INDICATIONS.—Atony of urinary apparatus, especially the bladder; burning, stinging pain, strangury and tenesmus of the neck of the bladder; dysentery, when there is a discharge of mucus streaked with blood, looking like scrapings of the intestines; intense sexual desire; gonorrhœa, when the discharge is purulent and bloody; menses too dark, too early and too profuse.—*Fyfe's Specific Diagnosis and Medication.*

CANTHARIS: Vesical irritation, partial paralysis of the sphincter vesicæ, teasing desire to urinate, dribbling of urine. Three to ten drops of the specific medicine every two hours.—*Watkins' Compendium of the Practice of Medicine.*

The Specific Medicine label carries the following directions and uses:

Cantharis.—A stimulant to the urinary apparatus, especially the bladder. *Dose*—Sp. Med. Cantharis, gtt. iii to x in water, as often as required *Poisonous in overdoses.*

Poison. *Treatment*—Avoid oils. Administer emetics first of all. Freely give demulcents and stimulants. Employ artificial heat externally.

PRICES OF SPECIFIC MEDICINE CANTHARIS.

¼-lb package.....	65c. each.	By mail, 87c.
½-lb package.....	\$1.25 each.	Not mailable.
1-lb package.....	\$2.50 each.	Not mailable.