

Ants, and other Great Medicines

an unpublished book *by*
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(1942–2001)

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INTRODUCTION

“Amulets and things to be borne about, I find prescribed, taxed by some, approved by Renodeus, Platerus and others; look for them in Mizaldus, Porta, Albertus, etc. . . A ring made with the hoof of an ass’s right forefoot carried about, etc. I say with Renodeus, they are not altogether to be rejected. Paeony doth cure epilepsy; precious stones most diseases; a wolf’s dung borne with one helps the cholick, a spider an ague, etc. . .

Some medicines are to be exploded, that consist of words, characters, spells and charms, which can do no good at all, but out of strong conceit, as Pomponatius proves; or the devil’s policy, who is the first founder and teacher of them.”

Anatomy of Melancholy Robert Burton (1621)

The medicine of our ancestors was a wonderful mixture of trash and treasures. Most of it was imagination and superstition, but there were real discoveries as well. The twentieth century saw scientists delving into the molecular basis of life. In spite of all their discoveries, some of humanity’s basic medical conditions seemed to be almost hopeless. The newer doctors derided the practices of the past, for they believed that their answers were more scientific.

We have forgotten the old medical secrets, and they have been nearly left out of medical history, but history should be studied. In an earlier era a prescription might read: “Rx: take two leeches, one spider and a dozen ants.” Now we are educated and we know these as relics of the past. Yet ants were once valued as a cure for arthritis. Spider venom holds promise as a cure for muscular dystrophy. Leeches are used in modern surgery for reattaching ears and fingers.

Superstition is sometimes relative to our level of examination of it. In 1929 a Scottish bacteriologist wrote: “The penicillin molds are pleasant enough. We are content to use them to bring our Camembert and Roquefort cheeses into a pleasant condition of ripeness and in that respect I would not miss them. But beyond that and especially with a view to therapy in medicine, these molds are completely worthless.” Fifteen years later these molds were producing large quantities of penicillin, our first wonder drug! From Helmuth Bottcher’s *Wonder Drugs—A History of Antibiotics*.

In 1992 the Declaration of Helsinki of the World Medical Association read: "In the treatment of the sick person the physician must be free to use a new diagnostic and therapeutic measure, if in his or her judgement, it offers hope of saving life, re-establishing health or alleviating suffering." The AMA signed this declaration. If we cannot cure people with operations and unaffordable medicines, we need to look at the past and see what others have used.

The idea of wonder drugs permeates medicine today. I am told that a newly minted doctor has spent nearly a year of schooling memorizing thousands of drugs and their indications in order to give instant advice. Sir William Osler once wrote: "One of the first duties of the physician is to educate the masses not to take medicine. Remember how much you do not know. Do not put strange medicines into your patients."

Healing power exists in the mind and this is why much of ancient medicine worked. The modern placebo is an adaptation of an ancient practice of some type of visualization, the doing of which brings relief or healing. A second part of healing exists in stimulation of the body. This may be walking, exercise, or applied externally as in massage to stimulate the muscles and nerves. A third part of healing is in biochemically active compounds coming from plants, insects and nature. This area has received the most publicity.

Paracelsus wrote: "The power of imagination is a great factor in medicine. It may produce diseases in man and in animals and it may cure them. But this is not done by the powers of symbols or characters made in wax or being written on paper, but by an imagination, which perfects the will. All the imagination of man comes from the heart. The heart is the seed of the microcosm, and from that seed the imagination proceeds into the macrocosm. Thus the imagination of man is a seed that becomes materialized or corporeal."

I began my study of medicine in 1976 as a quest for forgotten herbal remedies. As I worked my way through millions of pages of literature, I began to save odd notes. This book is a collection of these notes. Many items could be of value today, but most need the touch of modern science. This book is not written as a medical advice book, but as an exploration of history. In case of illness, see a qualified health practitioner.

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1. MEDICINAL ANTS

“Walking a few steps, I saw that she was not a real woman, but that she was a sacred person, and that she was standing beside an ant hill. “Come here daughter.” Again I walked toward her when I did not wish to move. Stopping by her side, I did not try to look into her face. My heart was nearly choking me. “Walk up the side of this ant hill and ask for the things that you wish, daughter,” the person said, and then she was gone.

Now in this medicine dream, I entered a beautiful white lodge with a war-eagle at the head. He did not speak to me and yet I have often seen him since that day. And even now the ants help me. I listen to them always. They are my medicine, these busy, powerful little people, the ants.”

Pretty Shield: Medicine Woman of the Crow Frank Linderman

The Spanish traveler Jules Crevaux was journeying through South America when he entered a village of the Apalai Indians. After his arrival some Indians brought him many large black biting ants on palm leaves. All of the people of the village presented themselves, and he had to use the stinging ants on their faces and bodies. When he applied the ants too lightly, they called: “More! More!” They weren’t satisfied until the skin was thickly studded with swellings. Crevaux was witnessing the ancient principle of counter-irritation. Bad bites would drive away the badness of disease.

The two most toxic ants of the neotropics were the giant tropical bullet ant (*Paraponera clavata*) and harvester ants (*Pogonomyrmex* species). There was a ritual among some tribes that young men seeking marriage had to put their hands into ant nests to show that they can withstand pain. There were waves of pain that could last for a day with numbness, vomiting and uncontrollable trembling.

When the South American leaf-cutter ant *Atta cephalotes* bites people, it results in painful inflammation and an ulcer. When the kolopendes ant (probably *Solenopsis saevissima*) bites South American hunters, the fiery bite causes cold shaking spells. One African ant has an unpleasant odor and insects confined with it die. If these ants are held to the nose of a dog, it struggles and howls. One man gathered these ants with his bare hand, causing inflammation, and his fingernails loosened and fell out.

Many ants carry various defensive poisons and repellents, for they are competing against other insect species, animals and birds. The nest ants *Oecophylla smaragdina* make exceedingly tough nests out of sticky glue much like a spider's web. Some ants have a stinger, similar to a wasp. *Odontomachus affinis* lives in oval nests about a foot long in the Matto Grosso of Brazil. The *Dinoponera gigantea* of Peru is a giant stinging ant. The *Pseudomyrmex* genus is one primitive subfamily of ant. It lives either in the *Triplaris americana* or *T. surinamensis*. In popular naming these trees were called either "palo santo" [saintly stick] or "palo diableo" [devil's stick]. You don't touch either a saint or a devil!

In 1653 Bernabe Cobo wrote: "This tree is hollow throughout from the trunk to the slenderest twigs and full of certain yellow and largish ants, so virulent that their sting is apt to bring on fever and is always exceedingly painful. Since these ants are concealed within the tree, they are not seen and this is the reason why those who do not know the secret are not on their guard. If a single leaf be touched, so many of the ants swarm forth from all parts of the tree as to excite wonder, and they assail the person who touches the tree and if he does not withdraw in time, martyr him with their stings."

The ants are collected by striking a tree with an object such as a machete. Thousands of ants pour out to defend the tree. A pail with a high concentration of sugar is held to capture them. If the ants find themselves captured, they attack each other and the venom is destroyed.

In 1968 Gunter Holzmann allowed these ants to sting him, because he was interested in seeing if it would help his arthritis. The stings helped and he interested a rheumatologist in treating other rheumatoid arthritis patients. Fifteen patients were treated with ants and an equal number with a placebo. Three patients dropped out of each group. All patients receiving the venom had some degree of local inflammatory reaction including erythema and pruritus. One injection of ant venom per week was given and a good response tended to occur two weeks later. Nine of the twelve patients receiving the venom in the trial had a decreased arthritis joint index by 50%. In the control group, only two people had a similar response.

Ant venom was the subject of U.S. patent 4,247,540. This came about through a medical study at the Miami School of Medicine. Thirty patients with rheumatoid arthritis were selected. Half the patients received an injection that caused an inflammation, but this had no real effect. The real ant venom had an effect on painful and inflamed joints. Most of the patients had little help from other treatments, but ant venom had a marked effect.

The Roman writer Plutarch told the story of how bears suffering from abdominal complaints practiced medicine. They put their tongues into honey and then into an ant hill. When it was covered with ants they swallowed them as a remedy.

Many birds practice "anting." Erwin Stresemann invented this term in 1935 to cover bathing in ant nests. It is believed that birds use ants to maintain their feathers. Starlings reared in captivity inserted ants into their feathers at every opportunity. They also put lemon juice vinegar and beer into their feathers. Apparently they will use nearly any acid juice to dress their feathers. A tame jay would come every time an orange was peeled to intercept the juice and went through the motions of bathing. Many ants have a high concentration of formic acid which kills feather lice *Mallophaga* species and feather mites *Acarina* species.

In 1963 an anting study was published detailing observations on Meadow pipits *Anthus pratensis*. A group of birds with an average of 732 feather mites spread their wings over a nest of *Formica rufa* ants. In twelve hours 253 mites were dead. An equal number of birds that were not allowed to ant were counted. There were an average of 758 mites in this group. The chemical iridomyrmecin from the Argentine ant *Linepithema humile* = *Iridomyrmex humilis* was found to be more effective than DDT or BHC against aphids, mites and some beetles.

One of the old secrets of European farmers was feeding chickens large red ants and ant eggs. Ant eggs are a powerful stimulant of egg production. Farmers would feed these to broody hens and lazy layers. Ant eggs cause a weight gain and the chickens lose fat. They seem to prevent coccidiosis and enteritis. The use of ant eggs was a secret of French poultry breeders. The best ants were *Formica rufa* and *F. pratensis*. When chickens are fed the pupae of Yellow meadow-ants

(*Lasius flavus*) they got cramps. When songbirds eat these eggs they get cramps and then they won't eat the eggs again.

There is an old observation that ants will swarm over the urine of diabetics, but will leave ordinary urine alone. The ants are attracted to the high levels of sugar in diabetic urine. Some tribes in the Amazon jungle used this observation to diagnose, and then they used jungle herbs to treat the disease.

We stitch up wounds with a needle and thread, but in ancient times big ants with biting jaws were used to stitch up wounds. The *Charaka Samhita* of India reads: "If there is a perforation of the intestines, the wound should be bitten by big black ants. When the perforation is closed by firm bites from many ants, their bodies must be cut off."

Ants were widely used in surgery in Southern Europe until about +1250. Several European doctors opposed ant surgery was that the ants were not tolerated well in stitching up the inside of the body. Dr. Matthaus Purman opposed ants in his writings in 1690. He cited the lack of ants in the winter months and the fact that the mandibles of ants often relax after death.

The first person to write about ants stitching up wounds in the New World was Bernabe Cobo in 1653. He watched the Indians of Santo Domingo push the edges of a cut together and then have ants bite across it.

A letter of Dr. Charles Doret from El Salvador in 1856 contains another observation. "On my arrival, I found an Indian medico had sewed up the wounded gut with the nippers of a large ant. The insect, which is very savage, was taken by the body, and its head presented to the united lips of the wound, which is bit and held fast. The operator then, by a pinch of the fingers, killed the ant, leaving its head fixed to the gut. Another and another ant thus applied to the number of a dozen or fifteen, affected this singular suture. The gut was then replaced and no inflammation ensuing, the man recovered speedily. This curious practice is said to be unusual in this part of Central America."

In 1895 doctor Robert Loud hired a Maine Indian guide for a hunting trip. He slipped in the woods and cut himself badly. They

had no medical supplies, but the guide said he'd take care of it. Chief Okua returned with a dozen large brown ants. He washed the wound with elm bark, and stitched it up with eight ants. Then the bodies were twisted off, and thrown away. The wound was sutured as well as a needle or thread could have done.

In 1896 a visitor to Greece fell off his horse and had a deep cut above his eye. A Greek stitched up the wound with ten ants.

Older literature contains other references to the use of ants. The journalist Henry Stanley was on his way to the famous meeting with Doctor David Livingstone. He noticed that many natives of the lower Congo (Zaire) were carrying packages of dried red ants to Arisibba. The toxic ants were used to poison arrows.

In Africa a tea of "white ants" was used to cure whooping cough. In Morocco patients were fed ants to overcome lethargy. Australian aborigines made teas of green tree ants *Oecophylla smaragdina* for headaches. In the Amazon teas of the stinging izula ants were used to cure colds and impotence in men. In Russia a tincture of ants known as "muraschkowka," was used to treat colds. In Tibetan medicine ants were used for urinary retention and as a mild purgative.

Old European literature contains recipes for "eau de magnanimité," which was used to treat sore eyes. Weak vision was treated with ant eggs mixed with an equal amount of white flour to make dough. It was lightly baked, mixed with red wine and put over closed eyes at bedtime. In 1537 Hieronymus Brunswig mentioned in his book on distillation that water distilled from ants cures cataracts.

In Arabian medical literature Ibn Wahshiya wrote: "One of our ancient called Yabkay has asserted, that if a man takes ten large ants, pulverizes them, and drinks them with good wine, then it is useful to the victim of the rutaila [spider] bite; and it is much in use." The Arab doctor Saduck wrote: "Ants were used externally in leprosy and as an aphrodisiac and to prevent the reproduction of hair in the axilla."

The main use of ants in Central Asia was in curing arthritis. In Russia milk bottles were filled half and half with ants and vodka. It was kept in a warm place for several days and then a teaspoonful was taken morning and night. Most of the native healers used ants. Ants were put into canvas bags and put around the legs of paralyzed

persons. The bags stayed on for 2-3 days while the ants scurried about and bit.

In 1839 Russian Doctor Schreiber published his results with ants. He didn't have good results with ants tinctures or ant baths. He tried putting living ants in a bag and tying this over patients suffering from the paralysis or a stroke. The patient would begin to feel the running and biting, which produced electrical twitches and a feeling of warmth. He kept the ants on the paralyzed part 2-3 days, then a day of rest and then again for 2-3 days. In 1835 he had seven favorable cases of paralysis. About one in three cases benefited. He extended the treatment to chronic arthritis and gout. In a three-year period he cured 46 patients. He began to treat dropsy and anasarca. He was able to cure 24 patients this way. Schreiber had a case resembling elephantitis, the leg was cold, hard and greatly swollen. A variety of treatments failed. Ants were applied and the disorder was cured within twenty days.

A curandero in the Sangre de Cristo Mountains told of her use of red ants: "But no, it is a great convenience. When a child who is unable to walk is brought to me, I collect a can full of love ants, roast them in the oven, grind them and rub the child's legs with the powder. After several treatments the little one is so strong that he can run and play as well as his companions."

The Zuni Indians had an ant society that believed that ants were helpful in war because their activities covered the tracks. The Zuni ant society [Halokwe] believed that disease was caused because by ants shooting invisible pebbles into those who step on them. The ant society performed a four-night ceremony for the sick. On the first night the yellow ants to the north were invoked, and the blue ants to the west were invoked the next night with prayers. The red ants to the south were invoked on the third night, and the white ants to the east were appealed to on the last night. The Pueblo Indians believed that ants were vindictive and cause diseases. These could only be cured by an "Ant doctor" or by the "Ant society."

Around the year 1500 the botanist Otto Brunfels noticed that an ant reddened a blue flower which it crawled over. He was seeing the chemical reaction in which acid reddens blue litmus paper. In 1679

Samuel Fisher distilled ants to get the acid. In 1822 Franz Doebereiner discovered that ant acid was mainly formic acid.

Formic acid is named after the red ant *Formica rufa*, which contains it in large amounts. When it is diluted one part to three thousand, it suppresses the development of bacteria. If 1-2 drops are taken well diluted, there are no symptoms except for occasional irritation of the throat. There is a feeling of warmth and emptiness of the stomach.

Formic acid was once believed to be present in ant and bee stings. A Long Island farmer was cured of arthritis after being stung by honeybees and this aroused interest after the *New York Sun* ran the story. Dr. Louis Couch found that the strongest solution that could be used was about 2.5%.

A 45-year-old woman with rheumatoid arthritis for six years was brought to Dr. Couch. Her shoulders, elbows, fingers, ankles and knees were swollen and sensitive to touch or movement. Mrs. S. remarked "Doctor, I often prayed that I might die, I suffered such agony and my condition was so hopeless and helpless. I could not sleep, being racked with pain night and day, with not even the power left to change my position to rest my wearied body."

Dr. Couch gave her 15 subcutaneous injections of five drops each about two inches apart in the knee area. They were painful for about 3-4 minutes. In about a week there was increased mobility of all the joints and a decrease in swellings. She could walk with assistance, comb her hair and put her hands on her face. She took five treatments in three years and was able to live a relatively normal life.

Since ants live in large colonies, it stands to reason that they must have evolved defenses against bacteria, viruses and fungi. A study was made of secretions from the metapleural gland of *Myrmecia nigriscapa*, the giant Australian bull-ant. The extract strongly inhibited six of seven fungi. An extract of the metapleural gland of the Australian bull-ant *Myrmecia gulosa* was studied. The active fraction contained phenylacetic acid, which was highly toxic to fungi.

Many hospitals have found infections that are resistant to nearly all known antibiotics. Andrew Bettie studied the secretions of a dozen species of ants. He found an antibiotic named metapleurin,

which was highly effective against staph bacteria and candida. Perhaps it could become a commercial antibiotic.

A field study directed by the University of Malaya found the ant *Crematogaster deformis*. When it is attacked it releases a secretion which has insecticidal properties and serves as an antiseptic. Usually the attackers flee after being smeared with the secretion. It contains phenols, resembles antiseptics.

Around 1630 Felix Platerus, a professor of medicine at Basel, Switzerland, wrote about ants. The juice of ants destroys *maculae*—i.e. brown skin spots. If forty ants are swallowed in a drink, they act as an aphrodisiac.

Hoffman's "Vinegar of Magnanimity" was a famous seventeenth century vinegar made with ants. It was taken as a tonic, stomachic, diuretic and aphrodisiac. Small amounts of formic acid are said to stimulate sexual desire.

Doctor James wrote that ants "Heat and dry and incite to venery." He said that they would cure the "flora, lepra and lentigo." The pupae were used for deafness and corrected the facial hairiness of children when rubbed thereon. The Arabian school of medicine also believed that ants were aphrodisiac. "Take one hundred large, black ants and macerate them for three weeks in half an ounce of light oil. Anoint the urethra orifice to accelerate erections and a free discharge of the fluids.

The *London Pharmacopoeia* of 1696 noted: "Ants are hot and dry; excite lust and by their sharp scent wonderfully refresh the spirit, the greater or winged, with a little salt cure the psora, or scab and leprosy."

The famous Chinese herbalist Li Shi Cheng [1518-1593] wrote in *The Compendium of Materia Medica*, that ants strengthen man's body and improve the complexion. Around 1800 Zhao Xuemin added the statement to his materia medica that ants stimulate the appetite and promote the secretion of milk.

The Medical Science Academy of Zhejiang tested a tonic made from spined ants *Polyrhachis vicina*. The ants contain formic aldehyde, ATP and 19 enzymes. They are said to increase the white blood cells, reduce pain and extend the lifespan. The tonic is used to treat fatigue,

anxiety and increase stamina. The Jinling Medicinal Ants Center in Nanjing treated 28,000 patients as of 1994 with ant preparations.

Testimonials from some users are interesting. U. Hehua wrote: "I am a 56 year old woman and a self-employed tailor. I suffered from sciatica for a long time due to sitting while working long hours. I began taking Yi Huang Jing Hua and felt better and better. Thank you for a good product. It is a savior of sufferers like me."

Li Jianguai, a power plant worker, wrote: "I contracted hepatitis B in the spring of 1989. Both Chinese and Western therapies failed to help me. I saw the ant product on Zhejiang TV and bought four boxes of this liquid. My appetite increased, I feel stronger and became confident. I continue to take the liquid with full confidence."

An entomology professor at Zhejiang Agricultural University tried the tonic. When Tang Jue took ant tonic while tired, he became quite energetic. His backache disappeared. The ago marks decreased and then vanished. He felt so much better than he was able to make a difficult research tour in Sichuan Province. His hair lost some of the gray and his thinking became clearer.

In traditional Chinese medicine rheumatoid arthritis belongs to the category of "kidney-energy stagnation syndrome." A study was made of 600 sufferers. They were given a powder or a solution which they took three times a day for a three month period. Sixty cases were cured, 300 cases were greatly improved and 230 cases were improved.

The California Indians tapped on a log to collect red ants. They swallowed them whole to cure dysentery. The soil surrounding the ant hills was mixed with water and given internally for diarrhea and dysentery. Red ants were put on the abdomen and aroused to anger, so they would bite for arthritis.

A friend was visiting Indian friends in Nevada around 1970. A teenage boy was screaming with pain from an apparent appendix attack. He was rushed to the hospital in Elko, Nevada. "What, no insurance and no money. Get out of here!" The worried father rushed his son to a visiting Mexican Tarahumara healer.

When the sick boy was brought to him the old healer said: "Go to the hill of red ants 100 feet to the south." Red ants were brought and given to the boy. In a few minutes the severe pain was over and father

and son left to celebrate the healing with a pizza!

Ants were also used for hygiene. People used to put clothing infested with lice on anthills and they removed the lice and disinfected the clothing. The ant *Lasius fuliginosus* clears off nearly all lice and eggs. *Formica fusca* removed the lice and eggs but it damaged the fabric. Formic acid is the secretion that was believed to kill the lice. A 25% solution killed the lice immersed in it in ten minutes, but some eggs survived for twenty minutes. The vapor killed lice in three hours, but it didn't kill the eggs. Acetic acid gave similar results.

In 1910 the Hawaiian big-headed ant *Pheidole megacephala* was accidentally introduced to Fiji. This ant gets into the droppings of animals where it kills the eggs, larvae and pupae of the common housefly *Musca domestica*. This resulted in greatly reduced levels of flies and less fly-borne disease.

2. The Bee Cure

“Of course,” continued the bee-master, “there is nothing new in this treatment by rheumatism by bee stings. It is literally as old as the hills. Every beekeeper for the last two thousand years has known of it. But it is as much as a preventive as a cure that the acid in a bee’s sting is valuable. The rarest thing in the world is to find a beekeeper suffering rheumatism. And if everyone kept bees, and got stung occasionally, the doctors would soon have one ailment the less to trouble about.”

The Bee Master of Warrilow Tickner Edwardes

“In my forty years of experience in the conscientious and philanthropic exercise of my profession, I found that the bee is the best little friend man possesses in the world; it helps to heal all internal and external maladies.”

Apis Mellifica C.W. Wald 1858

Hippocrates, Celsus, Galen and Pliny all mention bee therapy. These ancient doctors used honey with crushed bees for ophthalmia, toothache, sore gums and carbuncles. Bees cooked with honey were swallowed by dysentery.

With the exception of the stingless bee *Melipona beecheii* on the Yucatan Peninsula, all bees have stingers to protect themselves. Every four years Mayan beekeepers had a ritual called Hanli Kol in which they went to the classical Mayan temple Yal Koba and prayed to the god of bees Yoyum Kab. Today only 350 families tend the stingless bees on the Yucatan Peninsula.

A tea made from bees was once used for suppression of urine when a diuretic was needed. Doctors boiled 8-12 bees in a pint of boiling water. A tablespoonful of the tea was taken until the urine began to flow freely. Veterinarians used larger amounts for a horse or cow.

When Dr. Huff was a boy he watched two veterinarians trying to void urine with a catheter and the remedies of the time. They failed, but someone made a tea of nine honeybees boiled in a quart of water. This was given to the horse and 17 minutes later it was able to urinate normally. When he became a veterinarian, he tried the same remedy on a horse after everything failed. In a short time the horse was normal.

The wife of a rich plantation owner suffered from urinary obstruction. Her doctors failed to help, but her black housekeeper told her that she had a certain cure. She made a tea of honeybees and solved the problem in a few minutes.

Doctor W.B. Jones wrote: "When there was no actual mechanical obstruction, it has never yet disappointed me. I could report quite a number of highly interesting cases of strangury promptly and solely relieved by the use of bee tea."

In 1858 there was a medicine known as "specific medicine apis." Two ounces of bees were added to a pint of warm alcohol. The preparation was used to treat hives, diphtheria, scarlet fever, dropsy, urinary irritation and edema accompanied by swelling and burning.

Thomas Muffet gave us further advice in *The Theater of Insects*: "Take their bodies as soon as the bees are out of the hive and pound them. Drink with some diuretics or wine or milk. It will strongly cure dropsy and dissolve stone, gravel, open all passages of urine, cure all stoppages of the bladder, cure griping or wringing of the belly and guts."

The famous Roman doctor Galen (+160) wrote that powdered bees mixed with honey and put on the head would make hair grow. In 1716 the *New London Dispensary* reads: "The whole bee in powder given inwardly provokes urine, opens all stoppages or resins, breaks the stone, they are good against cancers, scrofulous tumors, the king's evil, dropsy, dimness of sight . . ."

Johannes Juhling wrote in his book on German folk medicine: "In podagra, put the bees on the most painful place. In fluor albus, let yourself be stung by a bee. For the loss of hair, kill bees, and mix them with honey and put it on the bald spot. If a sterile woman eats bees she will get pregnant. If you have rheumatism get stung with bees." There was more advice in using bee tea for coughs and hoarseness. Boils and carbuncles were cured by mixing bees with honey and applying to the area. Bees were even used to tell if a person was dead, or in a coma. Bees wouldn't sting a corpse, and there wouldn't be any inflammation, if they were made to sting.

Bee products are of considerable interest in healing. Honey has long been of interest in healing wounds and ulcers. Honey contained

a mysterious antibacterial factor, which scientists tried to isolate in hopes it might be another penicillin. The mysterious “inhibine” turned out to be hydrogen peroxide. Small amounts of a glucose-oxidizing enzyme produce tiny amounts of gluconic acid and hydrogen peroxide.

Royal jelly has also aroused scientific interest. Bees produce this substance to feed the queen, who is initially like any other bee. Royal jelly turns the normal worker bee into a giant queen and she becomes the life of the hive. Royal jelly is high in acetylcholine, which is a chemical found in nerves and brains. It inhibits leukemia and cancers in mice. Some people take it as a health supplement, but it doesn't seem to do much in humans.

Propolis is the sticky bee glue, which is gathered from trees and pollens. The biochemicals in propolis are known to be antiviral. Lund Aagaard was a government official in Denmark. When he moved to North Zealand he was given a hive of bees. He was coming down with a sore throat and fever in 1967. He mixed propolis and hot water and filtered it through a coffee filter. The next morning the cold and sore throat was gone.

The sting of the bee is the most interesting part of bee medicine. Many people have discovered in past times that accidental stings helped them, but few recorded the experience. Charlemagne, the emperor of the Holy Roman Empire, was cured of his gout by bee stings.

A London hospital experimented by treating five men with arthritis with bee stings. Four were hard drinkers and one was an alcoholic. When the men were discharged, they found that they had no further taste for alcohol. The hospital doctors were quite surprised and tried to see if bee stings could cure alcoholics. No further report was published.

Ernest Lautal was a French beekeeper who wrote: “For many years I suffered from an obstinate eczema over the whole body especially on my hands and forearms. I was under the treatment of many dermatologists, but could not obtain my relief. One day while handling bees, I was attacked on my left arm against my wishes by a great number of bees. The accident caused me quite an anxiety, not only because it caused me great pain, but I was afraid that my eczema would become

worse. To my great astonishment, the eczema entirely disappeared from my arm.”

A 70-year-old doctor's widow had been treated with chronic arthritis involving the back, knees, ankles, wrists and hands. She was cutting flowers, when she stepped into a nest of yellow jackets. She was stung seven times. She applied baking soda to the stings. Soon there was nausea, involuntary urination. With medical help the worst symptoms were over in about an hour. Her arthritis greatly improved for about four months. Then it returned and she had difficulty in getting around.

Beekeeping magazines contain a number of stories of healing. An Arkansas beekeeper wrote: “I had rheumatism and took medicine for six months with no result. One Sunday morning, I was stung on the chest by six or eight bees and in less than ten days I was fully cured.”

A beekeeper from Quebec wrote: “A friend of mine who had been suffering from rheumatism for several weeks. In the last two days he could hardly sleep. I asked him if he would object to bee stings for a sure cure. He said: “I'll stand anything to get rid of my soreness.” I at once got about a dozen bees and went to his home just like a family doctor. I must tell you everyone in the house ran out for fear of being stung. I proceeded to give him ten stings on the arm. That was Sunday afternoon and Monday morning he went to work on the job he left two weeks before.”

A young man was so badly afflicted with arthritis that he had to drop out of college. In desperation he stripped to the waist and stepped in front of a beehive. He poked the entrance with a stick and was stung 38 times. A week later he was back in college without problems.

A 28-year-old man suffered for arthritis for ten years. Specialists treated his arthritis without results. Both knees were swollen and painful and the neck and back was painful. He was taking 30 aspirins a day to control the pain. He took bee sting treatment twice a week with a maximum of 18 stings. After three months of bee stings, he was able to quit using aspirin. He gained weight, walked better and was able to stand straighter.

A lawyer living in Clinton, Washington had psoriatic arthritis. He could hardly walk, and tried to treat it with herbs and acupuncture, but this had no results. Bee stings were made on the painful joints of the feet. The sting pain left in about an hour and then the arthritic pain left. He could hardly walk, but soon was able to climb and hike.

The doctors who promoted bee stings as a means of cure had the same experiences. Philip Terc was a general practitioner in the town of Marburg, Austria. He suffered from severe arthritis. Hearing stories of others being stung by bees and cured, he ridiculed the idea. One day he was accidentally stung by a number of bees and his arthritis was completely cured. He began to use bee stings in his practice.

In 1879 a woman suffering from severe neuralgia and deafness called on him. She hadn't been able to get any help from several good doctors and was willing to try bee stings. Each day he would sting her with 15 bees on the neck and shoulder. There was no reaction for six days. The patient called him to come to the hotel where she was staying. Her face was badly swollen and she was unable to open her eyes. Her pain was gone and she could hear the sound of church bells. When she recovered from the swelling, she was permanently cured.

In 1889 he delivered a lecture to the Medical Society of Vienna. The lecture was met by indifference and opposition. He found that arthritic patients had partial immunity and he had to provoke a real reaction and gave as many as 30 bee stings at a time. If bee venom doesn't produce a reaction, then it isn't likely to be curative.

The leader of bee sting therapy in the United States was Charles Mraz of Middlebury, Vermont. He had been a beekeeper since the age of 14. By age 28 he was stricken with rheumatic fever. This left him with a damaged heart and such severe pain that he couldn't get out of a chair. He didn't believe the advice of old beekeepers that stings would cure arthritis. One day in desperation, he stung himself on both sides of his knee. The next morning he woke up without pain, which was shock to him.

A fellow beekeeper told Mraz that he was hit with shrapnel in his ankle. This resulted in severe arthritis pain in the ankle. One day a group of angry bees stung him in the ankle. Since that time he had no more pain.

Charles Mraz knew a man with terrible back pain. He had surgery, and now he had real pain that resisted all pain-killing drugs. When the scar was lightly touched the man winced in pain. After four bee stings he man was able to bend and touch the floor with his hands. A few weeks later the man was able to play golf. After four years the man's pain returned and he went to a neurosurgeon. He told the surgeon what he had done and the surgeon replied: "What are you doing here? There's nothing I can do for you; go back to the bees." They worked again!

Mraz received a letter from a man burned in a gas explosion. He spent eleven months in a hospital and had seventeen operations. This resulted in constant pain and itching. In 1971 he suffered two bee stings on his left arm, resulting in swelling and pain. A week later all of his pain and itching was gone.

A man was covered with shingles with blisters over his chest and back and suffered from constant pain. For four years, he went to the best doctors and hospitals of Boston. Nothing worked and he begged the doctors to cut the nerves to relieve the unbearable pain. Charles Mraz found the trigger points on the body and gave him 15 stings. Four hours later he called to say that all of his pain had disappeared.

Pat Wagner was diagnosed with chronic multiple sclerosis. She gradually became worse with numbness in her legs and weakness in her arms. Soon she was in a wheelchair with blurred vision and a state of lethargy. The disease left her unable to read or feed herself. She was taken to a home where they did bee sting therapy. Twenty minutes after being stung by bees, her leg began to feel warm. After two months of sting therapy, her hearing came back. Then she was able to walk with the help of a cane.

Wagner turned her home near Washington, D.C. into a free clinic for sufferers. She knocked down a wall of the home to accommodate wheelchairs and printed up business cards. Three days a week her home became the Mecca of a growing number of MS sufferers. She asks no fee and promises no cure. Some of the lame are now walking, the numb are feeling and those without energy are finding new life. Her license plate holder reads: "Bee all that you can bee."

Ed McIver was diagnosed with MS during his first year at Howard University. After his third session of bee stings he noticed an increase in energy with easier breathing. MS comes and goes, but mostly the sufferers go downhill. A significant number of people found greater energy, ability to walk without a wheelchair and new hope.

Medical history suggests that bee stings have a broader use. In 1864 J. Kukomsky of the Petersburg Forestry Institute published an article on the effectiveness of bee venom in the treatment of malaria. Several doctors in Russia found that stings could treat malaria.

One woman suffered from trigeminal neuralgia for four years. The woman had alcohol injections, surgery and drugs without result. Cutting the nerves did not free her from pain. Doctor Herbert Pollark decided to use injectable bee venom. After the first treatment she was free of pain for ten hours. After the seventh treatment the woman was able to sleep without narcotics for the night. After 21 injections she was completely cured.

In 1923 Edovard Boinet reported that he had treated two lepers and two lupus patients with bee stings. During a period of four months the first leper received up to 120 stings a day. The leproma patches regressed and the skin sensibility returned. The second leper received a total of 3,935 stings and was able to return to his native country as essentially cured.

A man with lupus received 1500 stings in four months. A woman with the condition received 4,000 stings in nine months. Both patients were considered cured.

A London hospital experimented by treating five men with arthritis with bee stings. Four were hard drinkers and one was an alcoholic. When the men were discharged, they found that they had no further taste for alcohol. The hospital doctors were quite surprised and tried to see if bee stings could cure alcoholics. No further report was published.

In 1932 newspapers carried dispatches from Paris. Rabbits with cancer were treated with bee venom injections. The inflammation shrank the cancers, but the experiments were not continued long enough to determine if cancer could be cured by bee venom.

A bee venom salve was produced in Egypt under the name of Forapin in the mid 1930s. The skin was scrubbed with soap and water. After drying the venom was rubbed into the area. The skin became red and there was a burning sensation. It was used in neuritis, sciatica and neuralgia.

Experiments show hornet venom increases the healing of experimental wounds. Some wounds and ulcers won't heal, and this is of interest. The venom produced thick skin and mature connective tissue where it was applied.

One fraction which composes 0.7% of venom is known as cardiopep. It reduces the heart rate and provides a 150% increase in the strength of the heart contraction. It makes an irregular heart beat more regular.

Injectable bee venom has not produced as good results as natural bee stings. In a study of 100 cases of arthritis without controls, bee stings produced 35 cases of marked improvement and 38 cases of moderate improvement. Perhaps the physical sting produces greater inflammation and this is part of the process that overcomes arthritis. If a new drug had these results in a trial, it would be featured on the front pages of the *New York Times!*

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