

The pathogenetic power of the snake venom to provoke disease

By Constantine Hering

Constantine Hering's own account of his discovery and subsequent proving of Lachesis translated into English for the first time

Translated by Jeanine Jaffie

The ancient doctors of Arabia and of the Middle Ages, who still possessed many oriental traditions, used as medicines a great number of venoms, and certain animal parts which are now considered useless. Almost all these remedies have been forgotten and only a few remained in popular medicine. New science must attempt to extricate from this chaos of traditions and hypotheses, which reigned in the old school, from the use of animal substances to that of alkaloids, all that can be truly useful to the art of healing, through submitting the most remarkable and diverse medicinal agents to a new test, in order to totally appreciate their modes of action upon the healthy individual.

It will be the test of future centuries to determine systematically the analogies and the differences presented by the pathogenetic action on the healthy individual of the substances of the three kingdoms, animal, vegetable, and mineral. One will then be able to indicate ahead of time, with more certainty, the agents most worthy of examination and the richest in results.

As for us, who are still uncertain, and yet who must make the most fruitful choices, it is important to examine the most striking substances: for example the principal elements of the earth sphere and of the sea which, almost all, have been recognized by Hahnemann as antipsoric, the elements of the animal organization, etc., etc. Among the plants, it is important to test preferably those which are known to have effects which are rapid, energetic, violent or prolonged, as well as those which are close to remedies already tested, Atropa mandragora, for example, formerly so famous, would draw our attention, as close to Belladonna; one should also study yellow flowered Aconites. It would be good to examine preferably plants whose effects are energetic, and which, in that respect, are so to speak isolated in the families to which they belong.

If one considers the animal kingdom from this point of view, one will be surprised at the small number of substances which have been studied until now, and all the more so since all those which have been studied have yielded remarkable results, more and more important as one descended lower on the scale of organized beings. It will suffice to enumerate musk, castoreum, amber, cantharides, sponge, sepia. The classes of birds, fishes and amphibians have supplied nothing yet; of all the animals of inferior order, sponge and sepia are the only ones known. We do not have much more to expect from animal substances similar to musk, castoreum, amber,

than effects like those produced by the latter; perhaps the same goes for the class of insects which act principally on the genito-urinary system; but fish and amphibians will certainly present pathogenetic characteristics quite particular, as well as animals of a lesser order. Judging from the traditions of popular medicine, a great number of fishes must possess medicinal qualities, and it is known that the number of venomous species is proportionally greater there than in any other class of the animal kingdom. Popular medicine has made an even greater use of amphibians; it was believed that in these hideous and repulsive beings, specific remedies would be found against equally repulsive illnesses. Thus we have seen, from ancient times, the use of grilled toads, desiccated lizards, snake fat, turtle blood and bile, recommended against ulcers and the most tenacious skin diseases.

Among all these animal poisons, the most remarkable, without doubt is snake venom, which one has not dared, up to the present, to use as a remedy. We only know about it that it is a secretion analogous to saliva, and the isolated stories of persons exposed accidentally to its effects, teach us very little.

TOXICOLOGY

There are many examples of people bitten by snakes who remained affected by all sorts of skin eruptions; one knows that a large quantity of venom kills with the speed of lightning, that a lesser quantity causes swelling, gangrene, etc.; finally that very small portions still cause very serious accidents. All this must make us want to test the effects of venom while attenuated enough to deprive them of their violence, and to be able to observe them more safely. As for myself, even long before travelling to warm climates, I had always strongly desired to test one day the dynamic effects of such a powerful venom. I have never completely believed chemists' assertions that venom works only in a wound, and that its effect is null when ingested by mouth. It is very true that a drop of venom on the tongue does not result in the accidents which follow its introduction into the blood, but could this be because it is neutralized or modified by human saliva? The venom must be able to expand and come into contact with the nerves and the blood. It is known to have an astringent taste, which in itself, could have led to certain expectations. The question, now, is to know how to proceed to use this venom so that it acts on the nerves extremities, as it acts, when someone is bitten, on the blood vessels extremities, and all this with its power mitigated enough so that the experiments present no danger. The most appropriate way is through trituration with milk sugar or dilution in alcohol. Chemists will probably cry out in protest against the idea of dissolving saliva in alcohol; I can

Originally printed in 1833 in the *Bibliothèque Homœopathique de Genève*, vol. 2.

Hahnemann College of Homœopathy, Berkeley CA., 19 November 1991.
©.

however reassure them in this regard. I have heard trustworthy observers say that, when transporting animals conserved in spirits, one must be very careful not to put venomous snakes together with the other preparations, because the alcohol which holds these snakes becomes a kind of corrosive for the other animal substances. This fact should warrant making a few experiments to see up to what point the active part of the venom can transmit its properties, and if it is proven that it has a dynamic action, perhaps chemists will have a new alkaloid to discover.

One could not object that with trituration in milk sugar venom can lose its strength, because it has been established by evidence that dried up snake teeth, even when they have been in spirits for a long time, can still cause the most serious accidents.

Tests made on snake venom triturated with milk sugar, will show not only what its pathogenetic action is upon a healthy man, but also what are the best ways to fight its effects on persons who have been bitten; they will reveal which ones among the many specifics recognized, are true antidotes. Perhaps also will they lead to the discovery in this venom of a highly important medicine. I will only recall here the fact reported by Galenius, that a leper was cured when he drank wine in which a viper had been drowned. I have been told here (in Surinam), as a great secret, that the head of a venomous snake grilled and pulverized, constitutes one of the main ingredients of a powder which not only protects from the effects of the bite, when rubbed on some little scratches made on the skin, but which also serves as a remedy after the bite. The pulverized head must not belong to the same species as that which caused the accident. I myself saw a leper healed, by this same powder, of all the bubos on his face and body. One must be very careful not to despise popular remedies; before Hahnemann, they were one of the main sources of medical matter, and we will find there much to tap still. Man's instinct make him often guess remedies which it would have taken the experience of centuries to discover and know how to find among the thousands of plants which surround him, the ten or twelve species which he uses and which we, in turn, will use.

All this had inspired me to wish to get for myself some live big venomous snake; but all my efforts and sacrifices of money remained fruitless for a long time. A beautiful eight foot long rattle snake, intended for me, was pilfered by an Englishman who forced the black man who was bringing it to me to give it to him. This snake was transferred at once on board a ship and locked into a beautiful cage, so that it wasn't even possible for me to try and collect a little venom. The ship's captain even told me later that he had had the whole thing thrown into the ocean without the slightest delay, and that he would rather have had the devil on board than this snake which wouldn't have let him sleep peacefully one minute.

A few small snakes which I succeeded, not without a lot of trouble, in getting alive to get their venom, gave out such small quantities of it that I couldn't make use of it.

THE CAPTURE

Finally, on 28 July, 1828, I had the pleasure of getting a big and beautiful snake which a hunter had half killed, but who had enough life still left in him for me to reach my goal. He was a *Trigonocephalus Lachesis*, [this was a classification error of Hering's, it was actually from the sub-species *Lachesis muta muta*. 'Trigonocephalus' is a misnomer. G B] whose bite is even more terrible in its effects than the rattle-snake's. He was

ten feet long, and one should note that none are found here of smaller length, probably because this species only goes about into the country's forests at coupling time, or when the individuals have reached a certain degree of growth. This snake had been caught near the town and had been tied up, half dead, in a basket. While being carried, he had given signs of being still alive. I opened the basket to take him out, and seeing that his vertebrae had been broken, I had him untied to see if he still could move his head. His colours were still bright, his mouth closed, and his eyes shone with life, but he could not move. I immediately got ready to take his venom, but I had trouble getting my men who were much afraid of him to help me. Since, as soon as they had hit the snake, they had seized and tied him behind his head, I could expect a considerable quantity of very fresh venom. I had them open the mouth as wide as possible, so that the two terrible fangs which produce venom were completely raised as at the time of biting. To take this position, the teeth move, their sharp ends curved like a shoe maker's needle, from top to bottom and from back to front, and the skin sheath which covers them completely at rest, draws back then more or less toward the root. I had a helper hold his head, and I placed between his jaws a small stick sharp at both ends to maintain the mouth open, an operation which was not without danger, due to the proximity of the formidable teeth. The latter being now well uncovered, I cleaned the mouth of the viscous saliva which filled it, and I got everything ready which was needed to collect the venom. Pressing lightly with my finger the spot where the poison bladder is found, I saw the latter jut at once from the opening located at the back of the tooth one or two lines above the point. One recognizes thus, by the position of the bladder itself, that when the snake opens its mouth and raises its hooks to bite, the bladder is squeezed a little and it fills the tooth with venom up to its opening. But this opening is too small for the venom to flow out. The point of the tooth is used only to introduce this opening into the wound, which ends in a small trench; as long as it comes into contact with the wounded parts, these draw in the venom from it as from a capillary. Pressing more firmly on my snake's bladder, I soon caused the venom to flow more abundantly, and it finally formed into a small drop at the point of the tooth. I immediately placed under it a small heap of milk sugar on some paper, and I received the drop just as it detached itself.

THE VENOM

Venom is analogous to saliva, but its consistency is less viscous; it is transparent, clear, although with a slightly greenish tint. The small drop becomes round easily and quickly at the point of the tooth, and falls down without forming a thread before it reaches the diameter of a drop of alcohol. The milk sugar absorbs it rapidly. When put into alcohol, with or without milk sugar, it does not coagulate, but forms in it a kind of light cloud.

I went on in this way carefully, pressing the bladder, to extract from it all the venom, first with one tooth and then the other. I noticed that when renewing the pressure, after a more or less long interval, the drop was formed almost as rapidly as the first time, which seemed to me to indicate that the snake was still alive.

I succeeded in collecting thus ten drops of venom on 100 grains of milk sugar, and I ground it right away for one hour. Ten grains of this preparation were then ground again with 100 more grains of milk sugar, in order to obtain approximately a centesimal division, considering the drop as equal to the unit of the grain.

I have used in my experiments the second preparation 1/100. Imperfect as my observations are, I give an account of them here, either to prove the pathogenetic power of venom, or to show that experiments with hundredths of a grain present no danger. It is besides a beginning for the more complete tests which will have to be made with this substance. I am going to suggest to use in these the preparation at 1/10,000, which will prove to be, I believe more effective still.

I wish very much that one of our zealous authors would attempt to gather all the facts that are known on the action of snake venom; that would be the best means to clarify this subject which is so curious and so important. If we possessed a well made summary of all the stories of accidents which happened as a result of bites, and especially of those when a small quantity of venom, instead of causing death, produced more or less serious chronic infections, one could deduct from them precious results. Although the effects of venom present very characteristic differences with the diverse species of snakes, it would take too long, I think, to enumerate separately the accidents caused by each particular species. The indications in this regard should simply accompany each symptom. The name of the country where the accident took place should never be forgotten, because this circumstance is very important.

In a girl whose finger was bitten by a snake, near Zittau, a kind of vesicular eruption was seen to start, reach the inner surface of the arm and extend down along the same side of the body. After a few days, the vesicles broke and dried up; the epidermis fell off, but the skin remained red, hot and pruriginous. On the seventh day, the patient felt very well. On the fourteenth day the vesicles appeared again, but only on the bitten finger.

OBSERVATIONS ON THE EFFECTS OF THE VENOM DURING THE GRINDING OF THE PREPARATION

I observed that I was swallowing the very fine dust escaping from the trituration. The result was, in the back of my throat, a very peculiar sensation, almost like a scratching. After an hour, I felt pain in my neck. It was like a pinching on a very circumscribed area at the right of my neck's base, and as if on the side of the throat. This pain was not increased by swallowing, but it was by pressure. After a few hours, going by cart, in the fresh air, a feeling of anxiety as if some great tragedy was happening far away; it was like a painful oppressive feeling. I was excessively distressed for one hour. Towards evening, a quite unaccustomed disposition to a jealousy akin almost to delirium, and as insane as it was unconquerable.

During the evening, extreme prostration, fatigue, somnolence, without being able to sleep. During this state of somnolence, or half-sleep, a particular disposition to loquacity. I speak a lot, I want to talk without sitting up; my words soon turn into endless babble, and I become immediately conscious that I am ranting. I take hold of myself then but soon I am starting again to do the same thing, and so on. Half of the evening is spent this way. The same night, complete anorexia, caused by an unpleasant sensation in my abdomen. A craving for beer. From time to time the pain in my neck reappears. After having gone to bed very sleepy, I can't sleep; soon I am completely awake. No position can satisfy me, everything seems to cause pressure to my neck and the nape of the neck. The least contact felt in my larynx is the cause of a painful feeling and of a kind of suffocation. It increase the pain in my neck. The palms of my hands and the soles of my feet are, during the whole evening, areas of intense heat. Having fallen asleep very late, I wake up very early in the morning with

insufficient bowel movement of a consistency almost like clay. Second morning, diarrhoea. Second afternoon, during sleep, dreams which are extraordinarily gay and humorous.

FIRST TEST

One grain of the preparation 1/100 in half a cup of rain water.

After noon, a sensation of contraction in my trachea. Mucous does not come loose, as it usually does. Less appetite. Remarkably little propensity to smoke. In the evening, a pleasant feeling of heat, the sensation is neither exclusively inside nor on the skin, it is like the feeling one has after a cold bath, or after coition. Agitation, I feel urged to find some fresh air; and want to do and to undertake all kinds of things. Bowel movement late, towards evening, evacuated with effort, although insufficient. Disposition to quick temper, to anger, without being in a bad mood. Mistrust, tendency to be suspicious. Shivers running rapidly through my back. In the evening, sudden coryza with tingling at the tip of my nose, pressure and watering of my eyes at the inner angle. These symptoms soon disappear. Before midnight, no desire to sleep. Around midnight, sudden diarrhoea. Clear stools, accompanied with much straining, and a smell of ammonia. Every evening diarrhoea, during seven days, with much straining, preceded by fleeting pains in the colon, and followed by throbbing of the anus as of a small hammer. The secretion of mucous in my trachea is greatly diminished; that of my nose and throat is greater. On the third night, pollution, a very rare occurrence for the observer, with a sensation of pleasure extraordinarily alive. Indifference and forgetful disposition, very marked and very persistent. No desire to smoke (although a great smoker), although without aversion. This lasted several weeks. More pronounced inclination to drink wine; but wine has less effects than usual. During a whole week, less appetite, and pain at the pit of the stomach when pressure is applied. Strong itching between the fingers. When scratched in some small hard and shiny places, a vesicle is made to rise there, with the sensation of tension and burning. Frequently, an agitation which forces me to seek fresh air.

The effects remained strongly pronounced in this way during a week, then they diminished little by little, and finally disappeared completely. The sudden coryza and the diarrhoea are perhaps proof that the dosage was too strong. The last symptoms were all very persistent and very striking.

SECOND TEST

One grain of the preparation 1/100 in one cup of rain water.

THE FIRST DAY:

After a few hours, pain in my neck on the side and a little behind the larynx, on a very circumscribed space. The larynx is painful when touched. A sensation of vacuity in my abdomen, as if one was fasting. A very strong excitation of the sexual instinct. In the evening, marked disposition to be afraid. Appetite increases. Continuous dreams, tiring, waking up from time to time during the whole night and in the morning however waking up with the feeling of having slept well.

THE SECOND DAY:

In the morning before breakfast, frequent and loud expulsion of flatulency. The anus is as if closed. Dizziness while sitting after walking. Acute pain, like a deep permanent spot in my back, near the inside of the shoulder-blade, and which forces me to bend back. (I had felt this pain a long time ago, but it was reappearing for the first time in years). My mind is

excited during the whole morning. Yesterday, no bowel movement, today, bowel movement late, scarce, of thin consistency, after smoking. Before noon, erections. Before noon, somnolence after being in the fresh air, then sleep lasting several hours with continuous dreams on important themes, which are completely forgotten upon waking. Appetite increasing. Violent itching on a circumscribed space on the instep. In the evening, excitement and talkative disposition, but the back pain intervenes unpleasantly. Painful attacks of twitching in the wrist bones. At night, hiccup. At night very late, coryza. Continuous dreams till morning.

THE THIRD DAY:

Need to urinate more frequently, and expulsion of a foamy dark urine. More pronounced feeling of well being. When I smoke too long I feel sick. A permanent sensation, as if a bowel movement was coming, with no other effect than the expulsion of a little gas. Stools of little consistency; blood rising up to my head, dizziness. A kind of ecstacy, as one experiences after a great joy, or a sublime impression. I would like to talk and act, and every thing seems easy to perform during the rest of the day. Great sensitiveness to impressions; love poems move me excessively, to tears; I experience the need to cry fully to relieve my feelings. After crying, pain above the eyes. During the meal, strong itching in my nose. (This symptom had been felt formerly, but had ceased a long time ago). One evening, no propensity to sleep, the next night, invincible somnolence. At night, continuous idle dreams, interrupted by frequent waking.

THE FOURTH DAY:

In the morning, well-being, but without the usual appetite. Here and there, upon my fingers, small red itching dots. Here and there, small vesicles on my fingers, like mange scabies. During afternoon nap, dreams are poetical and full of inventiveness. After nap, sexual excitement. In the afternoon, after drinking tea, sudden indisposition, hiccups, belches, regurgitations, expulsion of flatulency extraordinarily abundant, then relief. I had never experienced these symptoms in such a strong and persistent way.

THE FIFTH DAY:

Many dreams; woke up early. In the morning, much loud gas. In the morning, buzzing in my right ear, which is my better ear, like the roll of drums. It stops when I shake my finger in my ear, but it always comes back. For several days, from time to time, I need to breathe deeply, especially when sitting. Pruriginous vesicles on my left hand's middle finger, on the outside. After a few days, a pimple similar to a wart, which leaves a scar when it disappears. My voice is hoarse. Sounds are formed with difficulty, as if there was some impediment in the tongue. Expectoration of mucosity does not help, a very persistent symptom. Every day a bowel movement of little consistency, but delayed each day a little more, so that from the morning it passed little by little to the evening, then from the evening again to the morning, etc. The blood forcefully rushes to my head. In the evening, the buzzing in my ear reappears. Pain next to my temples, as if an eruption of pimples was about to take place; it dissipates the next day. A jigger's bite causes extraordinary pain on the first day. The small wound does not heal, and remains painful for many days. Next to it, the epidermis chaps between my toes.

THE SIXTH DAY:

In the morning, sexual excitement with pain in my thighs, and a great feeling of weakness, as when one is worn out. All day long, extreme prostration of mind and body. In the morning, much loud gas. Spasmodic pains inside the anus, a little before and after a bowel movement. Strong appetite; after eating, need to go to bed. Marked propensity to remain in bed. I cannot bear to sit up while in bed. After my afternoon nap, fatigue, and pain in my thighs and back, next to the spine. The movement of breathing does not influence it.

THE FOLLOWING DAYS UNTIL THE FOURTEENTH:

Every night, meditative dreams. This symptom only diminishes a little after two weeks. During the day, I remember my dreams as if I had dreamed everything that is happening; but in another way, as if I had only forgotten it. Very abundant stools, followed by a little blood (on the eleventh and twelfth days). After a normal bowel movement, burning and intense heat in the anus (on the thirteenth day). A small group of flat warts appears on the outside of my thumb on the ninth day. Very frequent expulsion of clear, foamy urine. Persistent pain in my back when sitting, as if some foreign body was in my spine and shoulder. This pain makes you inclined to breathe deeply, without being relieved; it also forces you to lean back. Vesicles accompanied by very strong itching, then of burning, on the outer side of the right hand. Itching in my nose, during the meal. Never any appetite in the morning. Dinner being late, sudden indisposition, spasmodic yawns, and fainting. One must sit quietly and eat without delay, then everything gets better. After a bowel movement and emission of urine, a small quantity of the latter keeps coming back, imperiously demanding expulsion. Hoarseness still increasing. There is something in the larynx that expectoration doesn't manage to loosen, although mucosity is well ejected. Great sexual excitement, but without lubricity. Once overcome, it leaves one inclined to do intellectual work. The inventive power is much augmented for all which has to do with the mind's work. Scenes and events flock to the imagination. As soon as an idea has been grasped while writing, a multitude of other ideas spring up and crowd behind them, so that one cannot stop and finish. Disposition to be extremely communicative; conversation very alive. Excessive impatience with anything arid and boring. The more ill-humour there is, the more tendency also to banter, to satire, to comical ideas.

ACCELERATED LEARNING TECHNIQUES

Learning is FUN! The first in a series of workshops for students of all ages has just been held by Jen Maddern during February. We are now following this 'dry run' tested out on some first year homœopathy students, a 4th year and a terrified 'A' level student, with two further courses on:

Saturday 14th and 28th March
Saturday 18th April and 2nd May

So whether your goal is to pass an exam, improve your memory or speed up your organisational skills, this workshop will open up easier ways of achieving these ends.

Contact me (Helena Dennison) on 081 208 2863 for details.