their victim alive; others first kill it by smothering it between the coils of their body (constriction). The effects of a bite by a poisonous snake upon a small mammal or bird are almost instantaneous, preventing its escape; and the snake swallows its victim at its leisure, sometimes hours after it has been killed. The prey is always swallowed entire, and, as its girth generally much exceeds that of the snake, the progress of deglutition is very laborious and slow. Opening their jaws to their fullest extent, they seize the animal generally by the head, and pushing alternately the right and left sides of the jaws forward, they press the body through their elastic gullet into the stomach, its outlines being visible for some time through the distended walls of the abdomen. Digestion is quick and much accelerated by the quantity of saliva which is secreted during the progress of de­glutition, and in venomous snakes probably also by the chemical action of the poison. The primary function of the poison­apparatus is to serve as the means of procuring their food, but it also serves for defence. Only very few poisonous snakes (like *Naja elaps)* are known to resent the approach of man so much as to follow him on his retreat and to attack him. Others are much less inclined to avoid collision with man than innocuous kinds. They have thus become one of the greatest scourges to mankind, and Sir J. Fayrer has demonstrated that in India alone annually some 20,000 human beings perish from snake-bites. Therefore it will not be out of place to add here a chapter on snake poison and on the best means (ineffectual though they be in numerous cases) of counteracting its deleterious effects. An excellent account of the nature and of the effect of the venom of snakes, by Charles J. Martin, is in Allbutt’s *System of Medicine.* The following condensed account has been abstracted from it.

The poison is a clear, pale-yellow fluid which reacts acid, and contains about 30% of solids, but this varies according to the state of concentration. Most venoms are tasteless, but cobra poison is said to be disagreeably bitter. Dried venom keeps indefinitely, and dissolves readily in water. It keeps also in glycerine. It contains albuminous bodies in solution, and is in fact a pure solution of two or more poisonous proteids, which are the active agents, with a small quantity of an organic acid or colour­ing matter. The venom is destroyed by reagents which precipitate proteids in an insoluble form, or which destroy them, *e.g.* silver nitrate or permanganate of potash. Hypochlorites have the same effect. But carbolic acid and caustic potash destroy it only after a day or two, consequently they are not a remedy.

The venom is generally introduced into the subcutaneous tissue, whence it reaches the general circulation by absorption through the lymph and blood-vessels. When introduced directly into a vein, the effects are instantaneous. It is absorbed by the conjunctiva, but, excepting cobra poison, not by the mouth or alimentary canal, provided there be no hollow teeth and no abrasions. The venom of the various kinds of snakes acts differently.

*The Symptoms of Cobra Poison.—*Burning pain, followed by sleepiness and weakness in the legs after half an hour. Then profuse salivation, paralysis of the tongue and larynx, and inability to speak. Vomiting, incapacity of movement. The patient seems to be con­scious. Breathing becoming difficult. The heart’s action is quick­ened. The pupil remains contracted and reacts to light. At length breathing ceases, with or without convulsions, and the heart slowly stops. Should the patient survive, he returns rapidly to complete health.

*Rattlesnake Poison.—*The painful wound is speedily discoloured and swollen. Constitutional symptoms appear as a rule in less than fifteen minutes: prostration, staggering, cold sweats, vomiting, feeble and quick pulse, dilatation of the pupil, and slight mental disturbance. In this state the patient may die in about twelve hours. If he recovers from the depression, the local symptoms begin to play a much more important part than in cobra-poisoning : great swelling and discoloration extending up the limb and trunk, rise of temperature and repeated syncope, and laboured respiration. Death may occur in this stage. The local haemorrhagic extravasation frequently suppurates, or becomes gangrenous, and from this the patient may die even weeks afterwards. Recovery is sudden, and within a few hours the patient becomes bright and intelligent.

*Symptoms of Bite from the European Viper.—*Local burning pain ; the bitten limb soon swells and is discoloured. Great prostration, vomiting and cold, clammy perspiration follow within one to three hours. Pulse very feeble, with slight difficulty in breathing, and restlessness. . In severe cases the pulse may become imperceptible, the extremities may become cold, and the patient may pass into coma. In from twelve to twenty-four hours these severe constitu­tional symptoms usually pass off, but in the meantime the swelling and discoloration have spread enormously. Within a few days re­covery usually occurs somewhat suddenly, but death may occur from the severe depression, or from the secondary effects of sup­puration.

The symptoms of the bite from the *Daboia* or *Vipera russeli* resemble the effects of rattlesnake poison, but sanious discharges from the rectum, &c., are an additional and prominent feature. The recovering patient suffers from haemorrhagic extravasations in various organs, besides from the lungs, nose, mouth and bowels. Kidney haemorrhage and albuminuria is a constant symptom. The pupil is always dilated and insensitive to light.

*Bite of Australian Elapine Snakes.—*Pain and local swelling. The first constitutional symptoms appear in fifteen minutes to two hours. First faintness and irresistible desire to sleep. Then alarming prostration and vomiting. Pulse extremely feeble and thread-like, and uncountable. The limbs are cold and the skin is blanched. Respiration becomes shallow with the increasing coma. Sensation is blunted. The pupil is widely dilated and insensible to light. There is sometimes passing of blood. If the patient survives the coma, recovery is complete and as a rule rapid, without secondary symptoms.

The Australian venom and that of all viperine snakes, perhaps also that of the cobra, if introduced rapidly into the circulation, occasions extensive intravascular clotting. If the venom is slowly absorbed, the blood loses its coagulability, owing to the breaking down of the red blood-corpuscles, most so with vipers, less with Australian snakes, least so with the cobra. The cobra venom is supposed to extinguish the functions of the various nerve-centres of the cerebro-spinal system, the paralysation extending from below upwards, and it has a special affinity for the respiratory centre. The toxicity or relative strength of the cobra venom has been calcu­lated to be sixteen times that of the European viper. Snakes can poison each other, even those of the same kind.

*Treatment.—*Apply a ligature above, not on the top of, the situa­tion of the bite, twist the string tightly with a stick. Then make a free incision into the wound. Sucking out is dangerous! Then bandage the limb downwards, progressing towards the wound ; re­peat this several times. Do not keep the ligature longer than half an hour. Then let the circulation return, and apply the ligature again. In any case do not keep the ligature on for more than an hour for fear of gangrene. Direct application into the widened wound of calcium hypochlorite, *i.e.* bleaching powder, is very good, or of a 1 % solution of permanganate of potash, or Condy’s fluid. Vigorous cauterization with nitrate of silver, driving the stick into the widened wound, is also good, and it is a remedy which one can carry in the pocket. Quick amputation of the finger is the best remedy of all if a large snake has bitten it.

*Internal Remedies.—*The administration of enormous doses of alcohol is to be condemned strongly. Small, stimulating doses, and repeated, are good, but stimulation can be more effectively produced by ammonia or strychnine. Hypodermic injection of strychnine, in some cases as much as one to two grains (but not into a vein!), has in some cases had good results; but injection of ammonia, instead of doing any good, has disastrous sloughing results. .There is only one fairly reliable treatment, that by serum therapeutics, the injection of considerable quantities of serum of animals which have