

its affinity for nitrogen is much less. It has a different point of saturation for every gas, but when filled with one or more it is still capable of absorbing other gases. Thus coarse-grained charcoal saturated with ammonia takes up more carbonic acid than charcoal without ammonia, and the same charcoal when saturated with both takes up a larger quantity of sulphureted hydrogen than of either. This is a valuable property where, as in the case of the intestinal cavity, the gases are various.

Much is still to be learned on this head; but the reason why charcoal saturated with ammonia takes up carbonic acid so freely is plainly due to the formation of carbonate of ammonia.

The impregnation of charcoal with oxygen has important therapeutic actions. It is this which renders it so valuable an agent in destroying the fœtor of foul sores, and, when taken internally, in correcting any putrefactive tendencies, and it is also by virtue of this that sulphureted hydrogen is not only absorbed but immediately decomposed.

Dr. Arthur Leared adds that the beneficial action of charcoal need not be confined to the human subject, and suggests its use for flatulence in horses, and also as a remedy for that frequently fatal distention of the first stomach from carbonic acid, which occurs in cows after certain food, such as clover and potatoes.

SEVERE AND EXTENSIVE INJURY OF FORE-ARM, WITH RECOVERY.

By MEIGS CASE, M.D., Washington, D. C.

THE extension of the railway system and corporate neglect to provide substitutes for hand coupling have already created an army of men, who, with absent and crippled fingers, hands, and arms, are silent witnesses of the hardships of an indispensable vocation. A statistical exhibit of the number and character of these injuries would be interesting and valuable. The unpromising appearance of these cases usually suggests amputation, and it is believed that the undefined limitations of surgical enterprise too often permit it.

The illustration shows one of these injuries, as it was presented for treatment:



Thomas Lane, twenty-eight years of age, engaged in coupling a locomotive to a "gondola," was caught by the heavy iron bar, which was driven through his left arm, fracturing both radius and ulna, about one and one-half inches in front of the elbow-joint. An additional fracture of the radius in its middle third completely detached a four-inch piece, which lay transversely across the wound. Two other small pieces of loose comminuted bone were removed. The soft parts were crushed through near the radial attachment of the biceps, and nothing remained unsevered but a few fibers of the supinator longus and the extensor radialis longior. The weight of the forearm, thrown upon these thin attachments and a band of skin less than two inches wide, permitted the most extraordinary downward displacement of the nearly severed arm. The patient said that he feared it would "drop off" before he got home. The median nerve was torn half across the ulnar artery, and the soft parts adjacent were crushed, and the wound filled with soot. The borders of the wound were twenty-three inches in length, and extended nearly around the arm, terminating at points opposite and not to exceed two and one-half inches apart. The brachio radial artery was, however, uninjured, and he had a good pulse at the wrist.

I determined at once to give the patient the benefit of this fortunate circumstance, removed portions of crushed tissue, and carefully replaced the parts, and secured them by interrupted sutures. The whole was held in position by lateral splints of flannel and plaster of Paris, and the whole arm laid upon a pillow and covered with yeast poultices.



The venous hemorrhage was considerable during the first two days, and extensive swelling occurred with sloughing of the injured muscular tissue and bulging of the under lips of the wound. By the free use of nitric acid, this process was facilitated and controlled. There was no sloughing of the skin, and union by first intention took place in nearly one-third of the suture. At the expiration of ten days, the sloughs having disappeared, and the swelling greatly diminished, drainage-tubes were inserted from bottom to top, running through the center of the arm. An opening was made for this purpose on the lower side, about three inches in

front of the olecranon, and the entire arm surrounded by plaster of Paris bandage, with the exception of a half inch opening for the drainage tubes at the most dependent part.

The patient began to go about, and at the expiration of three months recovered, with some paralysis of the forearm and ankylosis of the elbow-joint; but he is able to carry a pail of water or handle a shovel and hoe as well as ever. The ankylosis at the elbow is slight, and could be easily broken up and motion restored.

The above illustration is taken from a photograph, and was made by direction of Dr. D. L. Huntington, Acting Surgeon-General of the United States, who has kindly suggested this publication.—*Medical Record*.

A LONG SLEEP.

A CERTAIN famous historical desert snail was brought from Egypt to England as a conchological specimen in the year 1846. This particular mollusk (the only one of his race, probably, who ever attained to individual distinction) at the time of his arrival in London was really alive and vigorous, but as the authorities of the British Museum, to whose tender care he was consigned, were ignorant of this important fact in his economy, he was gummed, mouth downward, on to a piece of cardboard, and duly labeled and dated with scientific accuracy, "*Helix desertorum*, March 25, 1846." Being a snail of a retiring and contented disposition, however, accustomed to long droughts and corresponding naps in his native sand-wastes, our mollusk thereupon simply curled himself up into the topmost recesses of his own whorls, and went placidly to sleep in perfect contentment for an unlimited period. Every conchologist takes it for granted, of course, that the shells which he receives from foreign parts have had their inhabitants properly boiled and extracted before being exported; for it is only the mere outer shell or skeleton of the animal that we preserve in our cabinets, leaving the actual flesh and muscles of the creature himself to wither unobserved upon its native shores. At the British Museum the desert snail might have snoozed away his inglorious existence unsuspected but for a happy accident which attracted public attention to his remarkable case in a most extraordinary manner. On March 7, 1850, nearly four years later, it was casually observed that the card on which he reposed was slightly discolored; and this discovery led to the suspicion that perhaps a living animal might be temporarily immured within that papery tomb. The museum authorities accordingly ordered our friend a warm bath (who shall say hereafter that science is unfeeling!) upon which the grateful snail, waking up at the touch of the familiar moisture, put his head cautiously out of his shell, walked up to the top of the basin, and began to take a cursory survey of British institutions with his four eye-bearing tentacles. So strange a recovery from a long torpid condition, only equaled by that of the seven sleepers of Ephesus, deserved an exceptional amount of scientific recognition. The desert snail at once awoke and found himself famous. Nay, he actually sat for his portrait to an eminent zoological artist, Mr. Waterhouse, and a wood-cut from the sketch thus procured, with a history of his life and adventures, may be found even unto this day in Dr. Woodward's "*Manual of the Mollusca*," to witness if I lie.—*The Cornhill Magazine*.

THE COBRA AND MONGOOSE.

By DR. G. ARCHIE STOCKWELL.

THE popular conceptions regarding those inveterate foes, the cobra and mongoose, are usually far from just, being derived from the sensational reports tourists and travelers are wont to season their writings with. The Indian cobra, or to give it full title, cobra de capello, or "hooded viper" (*Naja tripudens*), is far from being the vindictive reptile commonly depicted as perpetually lying in wait for an opportunity to carry death and terror to inoffensive humanity by means of its terrible fangs; but, on the contrary, it is a creature of nocturnal or crepuscular habits, during day lying coiled up and asleep in its lair, and at all times comparatively unobtrusive, and timid even to cowardice. It is implacable only toward those creatures generally classed as vermin, and, like the majority of the serpent tribe, only too happy if permitted to escape the presence of man in the nearest retreat, and manifests neither hostility nor displeasure other than by means of a mere threatening hiss.

In Hindostan, where, perhaps, the reptile is most general in distribution, its presence is nothing like universal, being dependent upon topographical features suitable for sustenance and reproduction, and vagaries of climate, soil, latitude, etc. In many regions, Bengal especially, it is altogether wanting, or so rare as to elude observation, and it becomes possible to reside in for years in the Orient without once obtaining so much as a glimpse of the species, save, perhaps, in the hands of some native mountebank. Civilization is its greatest foe, and it retires gradually before European settlements and methods of cultivation. In certain districts where its presence is well established, it is so unobtrusive as to be practically unknown save for a brief season immediately succeeding the rains; and even in Bundelcund, in the neighborhood of Lulutpore and Jabanzi, where it is especially numerous, is regarded as a source of annoyance rather than danger, exciting none of the fear and horror that the mere empty title obtains among residents of more temperate climes. The Anglo-Bengalee holds it in supreme contempt, as a creature to be classed rather among scorpions, centipedes, and vermin, than the more dangerous *fera natura*, and loss of life, save perhaps as the result of some foolhardy prank or criminal exhibition is unknown. After many years' residence, Captain Parker Gillmore declared he "could never bear of a European being bitten!" Boots and gaiters are invariably worn by foreigners and better classes of natives, and are efficient safeguards; and even trousers are in a measure protective, absorbing the virus, and catching and tearing out the fangs. Beds and couches are always surrounded by nettings of gauze, and covered by canopies as a protection against certain insect pests, while the ravages of others and of moth and damp insure close fitting closets and chests constantly under inspection, offering no lurking or hiding places for danger.

With the decline of the sun in the evening, the cobra crawls forth from hiding in search of toads, frogs, lizards, and the lesser forms of vermin and reptile life that afford it sustenance. For the sake of rats and mice there harbored, and of which it appears inordinately fond, it haunts abandoned cane and paddy fields, deserted temples, dwellings, fortifications, and honeycombed ant hills, or second growth jungles, rubbish piles, and ruins; and it is sometimes led thereby to stables and inhabited bungalows, when, if opportunity offers, it takes up its abode in drains, old wells, burrows, defective foundations, and even the eaves, thatch, and garret. Natives, the priests more especially, encourage

its presence as a means of ridding their abodes of superabundant vermin, enticing and retaining by means of frequent libations of milk regularly supplied. No native, moreover, will destroy a cobra save under compulsion, since it obtains a semi-sacred character as typical of the couch and guardian of the god Vishnu; and when compelled by it to mourn the decease of a friend, or even one of his immediate family, the poor Hindoo ventures on no greater retribution than the coaxing or forcing of the reptile into a jar, when it is transported to a distance and again given its liberty.

During the heated term, in the low lands, when doors and windows are required to be perpetually ajar to insure necessary circulation and supply of oxygen, a reptile will occasionally venture into an apartment after nightfall, when all is quiet, traversing it about by following the angles formed by floor and wall; but as it vanishes with the dawn, its presence is seldom suspected or made known, except perchance it casts a portion of its slough during its peregrinations. A friend who established himself for a few weeks in an abandoned and dilapidated bungalow, because of its contiguity to certain shooting grounds, assured me that he twice found in his sleeping apartment the cast sloughs of cobras prowling over night; was once awakened by the fall of a cobra from the shaky ceiling, along with a rat it sought to make its victim, both striking the canopy of his bed and rebounding to the floor; and on a third occasion, on rising, chancing to kick over a shooting boot that stood in his way, much to his surprise a reptile that had chosen it as a convenient retreat crawled forth and made for the open door—"Not a pleasant companion for one's foot, surely," he remarked, "but no more than might have been expected in taking up such quarters in such a neighborhood without thorough inspection and overhauling."

That the loss of life among the native population, from cobra poisoning, is considerable, is a natural result of prevailing habits of life; and occasionally the annual mortality statistics are positively appalling. It is only the better classes that habitually clothe the extremities and use the charpoy, or native bedstead, the great mass of humanity pursuing their vocations and moving about bare legged and with naked feet, marching even through dense jungles and traversing deserted plantations and ruins with the utmost *insouciance*; and at night they cast themselves indifferently on the bare floor or naked earth with but a brief cotton garment wrapped about the head and upper portion of the body. A cobra prowling for prey will sometimes cross the body or legs of one thus disposed, who, half awakened by the weight and movement, puts forth his hand to discover that which disturbs his slumbers, touches the hideous intruder, who mistakes the act for one of enmity, and is immediately fatally bitten. The callous carelessness of these people is astounding, and verges on absolute criminality; and how far it may arise from the sacred character with which the Hindoo invests the reptile, or from that universal fatality that pervades all classes, Hindoos, Mohammedans, and Parsees alike, I leave for others to determine.

Given one cobra in a neighborhood, and a second is invariably close at hand, presumably of the opposite sex, since Piny remarks the affection of the male and female asp—Cleopatra or Egyptian cobra (*Naja haje*)—asserting them to be constantly associated together, and that one invariably attempts to revenge the death of the other. The Cinghalese possess a kindred article of faith, saying that on the spot where one is destroyed, a second will be found soon after; and Sir J. Emmerson Tennent in a measure verifies this in several experiences. Once when a cobra was killed in a bath at the Government House at Colombo, Ceylon, its mate was found in the same spot the following day; again, at his own stables, a serpent having fallen into a well that was too deep to permit its escape, its companion, of the same size, was discovered in an adjoining drain. "On this occasion," says Tennent, "the snake, which had been several hours in the water, swam with ease, rearing its head and hood above the surface; and instances have repeatedly occurred of the cobra voluntarily taking considerable excursions by sea."

(This last statement must be received with caution, as it is based solely on native testimony, and hence is unreliable; undoubtedly, the *Pelamys bicolor* was mistaken for the *Naja*.)

When quiescent and unmenaced by danger, the reptile exhibits none of the peculiarities that authors in general are wont to depict for the horridification of their readers; and few travelers and tourists, presumably, ever see a cobra in unaffected repose, but only in the artificial character induced by the juggler. Instead of the large, full-hooded, and oval-flattened neck, overshadowing the head and considerably exceeding the body in diameter, it presents the same prone form, rounded contour, and tapering outlines of ophidians in general, except, perhaps, that the tail terminates more abruptly, and the body is more robust in proportion to its length, and its movements are in the main characterized by deliberation and sluggishness. It is only when excited and enraged that it rears its crest aloft for nearly half the length of its body, swaying rhythmically to and fro with the rigidity of an iron bar, head bent, deadly fangs erected, and tongue rapidly protruded and withdrawn, and air sibilant with its strident hissing; and it is now only that the neck assumes its hooded aspect, by drawing forward and expanding the first nine pairs of ribs, that are of a "floating" character, bringing into prominence in a most marked degree the two circular and connected spots of white that have given rise to the pseudonym of "spectacle snake;" and this act seems to be coincident with the erection and protrusion of the canine teeth that constitute the fangs. A serpent of five feet will erect its head for half a yard, or perhaps two-fifths its length, above the ground, drawing the posterior portion of the body into a coil, forming a virtual spiral spring, whereby it is enabled to pivot in all directions, and launch itself forward with incredible velocity and force for nearly its full extent; and it may even leap a yard or more when occasion demands, though in general is very chary of such efforts, seemingly aware that the momentary gain is an advantage lost in the time required to escape the prone form and again assume the offensive.

In spite of its venomous character, its natural docility and gentleness, coupled with its striking appearance, have made it a favorite with Oriental jugglers, the more so since the fatality that attends its wounds causes any trifling to appear the more wonderful. It is only fear that impels the cobra to strike, though this is far from being the generally received opinion. Popular belief, outside of India, credits performing serpents with the loss of their fangs, and their exhibition with being but one of their highly trained condition; but while this may be true in occasional instances, it is by no means a universal fact. The Hindoo understands full well the incredulity of all foreign Sahibs, the Anglo-Saxons in particular, whose commendation he is especially anxious to