

SERPENTS AT DINNER.

BY C. FEW SEISS.

I extract the following notes from my journal entry of September 28, 1877: "The first living frog we dropped into our snake house to-day had scarcely touched the floor when it was darted upon by a male garter snake (*Eutania sirtalis*, Linn.) and seized by the knee of the right hind limb. Nearly at the same instant a half-grown water snake (*Tropidonotus sipedon*, Linn.), although too small to swallow the frog, grasped it by the snout, and endeavored to drag it from the jaws of the other snake. The confusion caused by this struggle for a dinner aroused a large female *eutania*, which hastened to the scene, and immediately seized the frog by the foot of the same leg which was in the jaws of the first snake. The commotion which followed was, for a few minutes, great; the writhing of the serpents while they tugged at the frog, and the vehement struggling and kicking of the frog itself, caused the pebbles to fly and rattle about quite violently. But the female *eutania* began immediately to swallow the foot and leg of the frog she had seized, and continued to do so until her jaws came in contact with those of the male *eutania*. The latter was unable to make any progress in swallowing, as he had grasped the frog at the knee, and was trying to force it to flex the leg, or draw the tibia up toward the femur, so that he might swallow them together, or side by side. The female apparently took no notice of the jaws she had thus met on her road to dinner, but swallowed them, the remainder of the head, and the neck also! This unlooked for greediness being contrary to my wishes, I took a smooth ivory paper folder and worked it carefully under her upper jaw, thus unhooking the teeth from the other snake, and so ending the swallowing operation. A moment later, the male drew his head from its distasteful position, and although his neck was much lacerated and was bleeding profusely, he still retained his hold on the frog, and instantly began swallowing it, which he finished in two minutes, we having forced the water snake to unhook its teeth from the frog's snout. The second frog we put in was soon captured and devoured by the disappointed *eutania*. We then gave the water snake something which might have been a frog, but was—a tadpole."

I have never observed an instance of cannibalism among any species of American serpents known to me. We have no *ophiophagi* or snake-eating snakes in this country. The partial swallowing of the *eutania* mentioned was, I think, unintentional on the part of the swallower, and of course on that of the swallowed.

GATHERING TODDY.

The borassus tribe (*Borassineæ*) of palms consists of trees with fan-shaped or pinnate leaves, a woody fibrous or net-like spathe, and the fruit a drupe. The principal genus is the magnificent Palmyra palm, represented in our engraving. Of this the most important products are palm wine (toddy) and sugar. When the flower spike makes its appearance the operator ascends the tree by the aid of a vine or rope passed loosely around his own body and the trunk. He ties the spathe securely so that it cannot expand, and beats the base of the spike with a short stick. This beating, which is supposed to determine a flow of sap toward the wounded part, is repeated for several successive mornings, when a thin slice is removed from the end of the spathe. At about the eighth day the sap begins to flow at the rate of two pints daily, and continues to exude for four or five months, a slice of the spathe being removed every morning. This juice readily ferments, and is then palm wine or toddy. When distilled it yields the spirit known as arrack, or if allowed to pass to acetous fermentation it becomes vinegar.

Magnetization of Circular Steel Plates.

At a recent meeting of the French Physical Society, M. Duter exhibited some magnets obtained by submitting circular steel plates to the action of an electro-magnet terminating in a conical point, applied to the center of the disk. In these magnets the neutral line is a circle concentric with the disk. In order to study the magnetism, M. Duter uses a small cylinder of wrought iron fixed at its center to the stem of an areometer floating in water. The force of de-

that the force of detachment depends simply on a specific coefficient variable with the nature of the steel and with its thickness.

Moving Bodies Observed in the Blood during Life.

This was noticed in the case of a little girl, aged four and a half years, under the charge of Dr. Sansom, London. The child was admitted into the Northeastern Hospital, the disease having commenced a fortnight before with a pain in

her left cheek. Great prostration occurred and increased until admission. Sloughing rapidly took place, the cheek bone became perforated, and the inferior maxillary bone necrosed. Copious hemorrhage ensued on the third day after admission, and on the same day broncho-pneumonia set in. The child died eight days after admission.

The post mortem examination revealed very extensive necrosis of the tissues surrounding the left cheek and left side of the tongue, and necrosis of both superior and inferior maxilla. The bases of both lungs were consolidated.

On the third day after admission the first microscopical examination of the blood during life was made. The white elements were in excess, and many existed in fragmentary condition. Examined by a high power, a large number of small, highly refractile bodies, resembling minute colorless crystals, were seen in active movement. Reagents acted upon

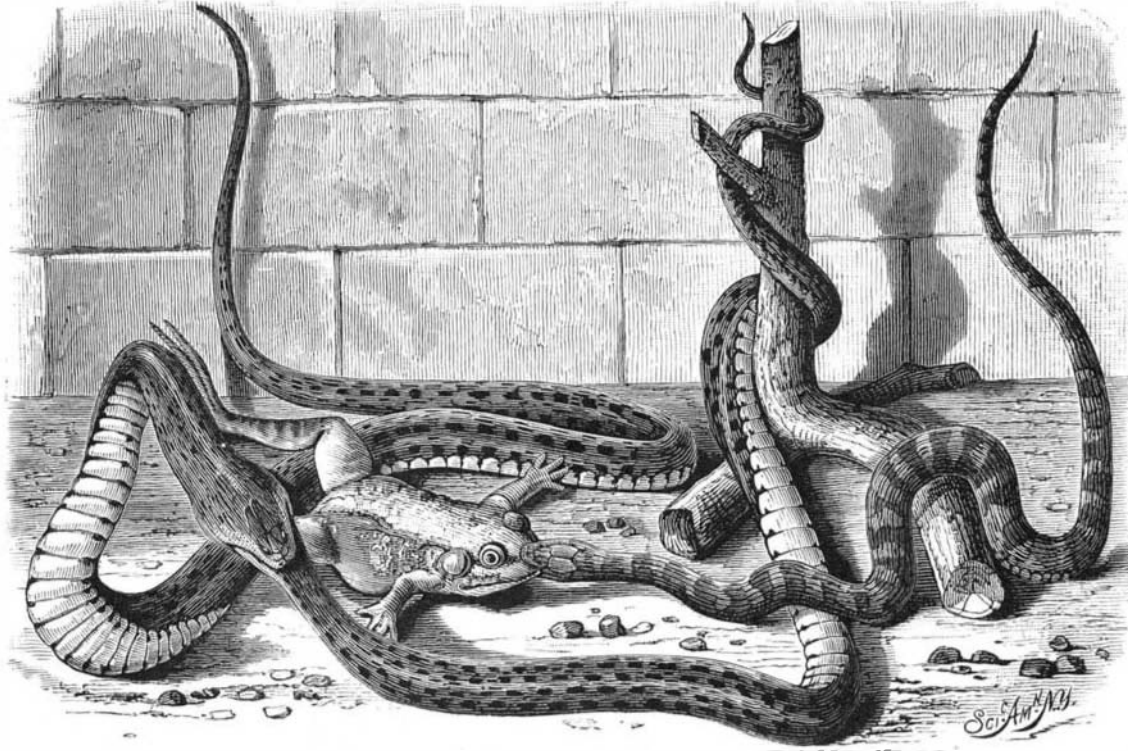
them variously: weak solutions of carbolic acid and of quinine arrested their movements, weak solutions of potash and of sulphuric acid stimulated them. The number of these motile bodies varied greatly at different times. After hemorrhage and fall of temperature they were greatly reduced in number; again, when the temperature had risen to 103° Fah., they were in great abundance. When numerous, they tended to form groups resembling zoöglæa. In size they were one twentieth part of an ordinary red blood corpuscle. Shortly before death ordinary bacteria were observed in addition to the translucent bodies. These latter bodies were found in the urine examined immediately after being voided, and in large number in the feces. The discharges from the wound also manifested them in abundance.

Investigations respecting the infective character of the blood and secretions were commenced on the second day after the child's death, the fluids preserved for inoculation having been kept in sealed capillary tubes. A healthy mouse inoculated with blood from the right auricle died on the day following, and on examination showed evidence of peritonitis, the exudations containing a large number of motile bodies exactly resembling those present in the blood of the child. A guinea pig treated in the same way died five days after the operation; its blood contained a vast number of the special translucent bodies. Inoculation of the fluids from the seat of the noma was practiced upon a mouse and a cat. Both animals died, and there was a complete absence of the motile translucent bodies from their blood.

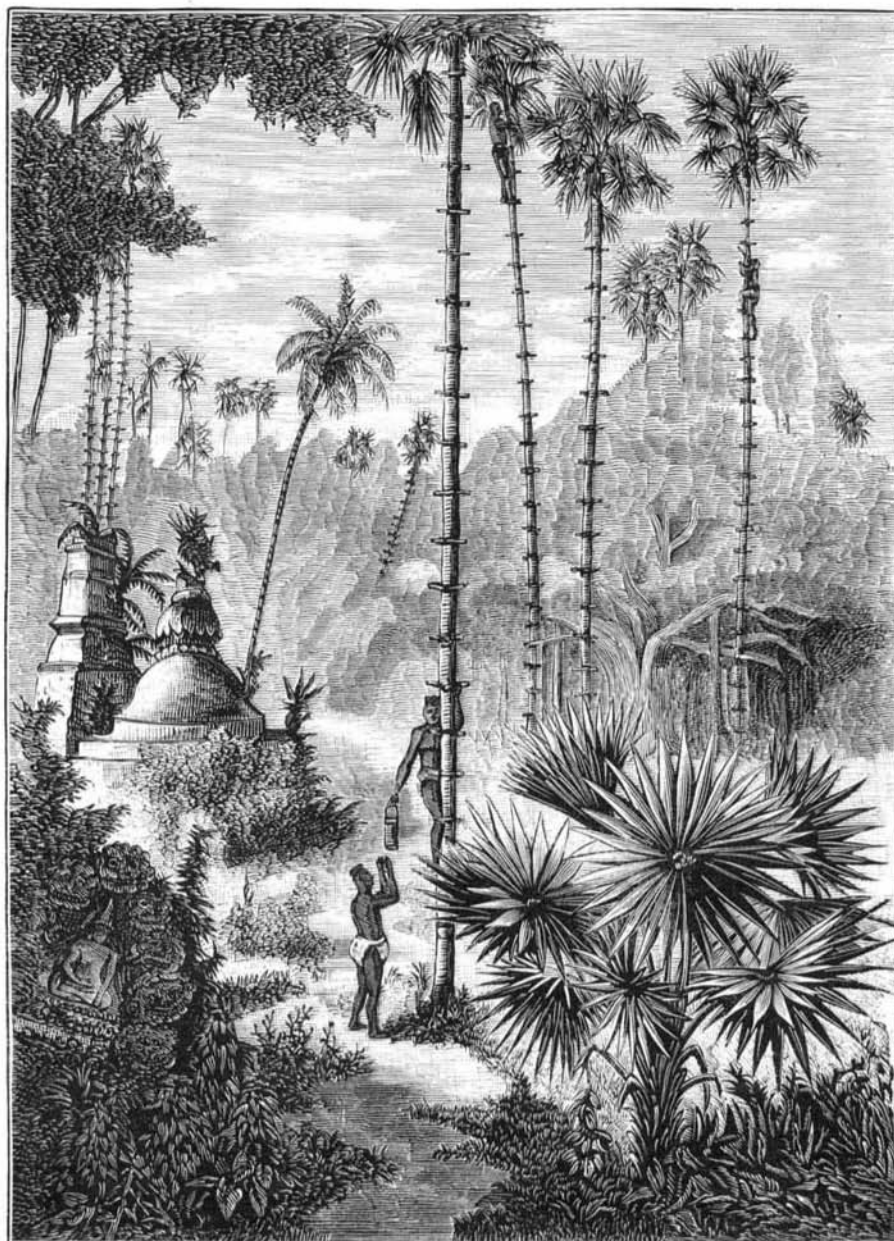
It would appear, therefore, that while inoculation of the fluids derived from the diseased tissue produced peritonitis without discoverable alteration of the blood, inoculation of the diseased blood induced septicæmia, with the manifestation of the characteristic motile particles observed in the original disease. The organisms resembled amœbæ rather than bacteria.

Bacteria.

Dr. Arthur Downes and Mr. T. P. Blunt presented to the Royal Society the result of most interesting observations on the effect of light upon bacteria and other organisms. The experiments were carried out in great detail, and their record is too lengthy to be given in full. The deductions to be drawn may be summed up as follows:



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THE PALMYRA PALM.