amplitude of respiration and induced anesthesia with abolition of the corneal reflex in 6 minutes. The pulse was greatly retarded. The mucous membranes remained pink. Clonic convulsions initiated by tremors came on within 10 minutes after induction, and violent tetanic convulsions quickly followed. Upon administering pure oxygen the convulsions promptly stopped, the pulse became very rapid, and the animals recovered. In all cases, except in the weaker dilutions (0.4%), the resistance of the erythrocytes to hypotonic Simmel's solutions was greater than normal.

After the administration of CO_2, much difficulty was experienced in obtaining blood because of the rapid clotting. Hickman noted this action of carbon-dioxide a century ago. Dr. Cline Chipman of Washington, D. C., has observed clinically that a few breaths of carbon-dioxide administered during the anesthetic period will greatly shorten the coagulation time of blood. This has been confirmed by Dr. R. M. Waters of Madison, Wis., and by Dr. M. E. Botsford and Dr. M. J. Price of San Francisco. Such an effect of carbon-dioxide may be of great clinical value in certain cases of capillary oozing at operation. Some phases of the relation of the CO_2 content of blood to its coagulation time have recently been studied by Baumberger.[1]

[1] Baumberger, J. P., *Arch. Internat. Physiol.*, 1926, xxvii, 86.

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Are the Protozoan Faunae of Termites Specific?

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The species of the lower families of termites, so far investigated, have each a characteristic hindgut fauna of flagellate Protozoa, belonging to the orders *Hypermastigida* and *Polymastigida*. All individuals of a given termite species over wide geographic ranges present, so far as known, a similar grouping of species. This raises the question whether we are dealing here with specific protozoan faunae, whose species are able to exist only in the one specific termite host, with which they have established obligatory physico-chemical relations, or whether the faunae are distinct because of the isolated habit of life of the termite colony.

A colony of *Porotermes froggatti* received in normal condition, but which an examination of nearly 100 intestines showed to have

lost its protozoan fauna, supposedly due to conditions encountered in transit, was used. Various methods were resorted to in attempts to refaunate the *Porotermes* individuals with the Protozoa from species belonging to other genera of termites.

All attempts to accomplish this by keeping *Porotermes* individuals in close association with *Termopsis augusticollis, Neotermes malatensis* and *Reticulitermes hesperus* proved failures.

Feeding defaunate *Porotermes* individuals with the intestinal contents of the 3 species named failed to accomplish transfaunation in most cases. In a few instances Protozoa survived for a few days, polymastigotes in all cases. No signs of increase of numbers or permanent establishment were noted.

All attempts to infect *Porotermes* individuals by applying to the anal aperture a drop of intestinal content of the infective species were failures.

Finally resort was had to injection by pipette through the anal aperture. For these experiments *Termopsis* was used as the source of infective material. Several cases of persistence for several hours and even a few days were observed, and finally with the last individual what seemed to be successful transfaunation was obtained. After 12 days an examination of the intestinal content showed the 4 larger members of the *Termopsis* fauna, *Trichonympha, Leidyopsis, Trichomonas* and *Streblomastix,* present in numbers and apparently normal in every way. The great numbers of *Trichomonas* suggested that this form had multiplied within the new host.

These experiments are reported in spite of their obviously preliminary nature, since the *Porotermes* stock was destroyed by Argentine ants and it seems improbable that more will be available. Experiments are in progress using the local species of termites to test the possibility of transfaunation, and to determine the normal method of refaunation within a species.