We do not overlook the possibility that the alteration in secretion may be partly due to the direct action of the drug on the secreting elements of the kidneys, and we are still engaged in experiments on this subject.

XI. "Description of the Living and Extinct Races of Gigantic Land-Tortoises.—Parts I. and II. Introduction, and the Tortoises of the Galapagos Islands." By Dr. Albert Günther, F.R.S. Received June 4, 1874.

(Abstract.)

The author having had the opportunity of examining a considerable collection of the remains of Tortoises found in the islands of Mauritius and Rodriguez associated with the bones of the Dodo and Solitaire, has arrived at the following conclusions :—

1. These remains clearly indicate the former existence of several species of gigantic Land-Tortoises, the Rodriguez species differing more markedly from those of the Mauritius than these latter among themselves. All these species appear to have become extinct in modern times.

2. These extinct Tortoises of the Mascarenes are distinguished by a flat cranium, truncated beak, and a broad bridge between the foramina obturatoria.

3. All the other examples of gigantic Tortoises preserved in our museums, and said to have been brought from the Mascarenes, and likewise the single species which is known still to survive, in a wild state, in the small island of Aldabra, have a convex cranium, truncated beak, and a narrow bridge between the obturator foramina ; and therefore are specifically, if not generically, distinct from the extinct ones.

4. On the other hand, there exists the greatest affinity between those contemporaries of the Dodo and Solitaire and the Tortoises still inhabiting the Galapagos archipelago.

These unexpected results induced the author to subject to a detailed examination all the available material of the gigantic Tortoises from the Mascarenes and Galapagos which are still living, or were believed to be living, and are commonly called *Testudo indica* and *Testudo elephantopus*, and to collect all the historical evidence referring to them. Thus, in the *first* (*introductory*) part of the paper a selection from the accounts of travellers is given, by which it is clearly shown that the presence of these Tortoises at two so distant stations as the Galapagos and Mascarenes cannot be accounted for by the agency of man, at least not in historical times, and therefore that these animals must be regarded as indigenous.

The *second* part consists of a description of the Galapagos Tortoises. The author shows that the opinion of some of the older travellers, viz.

that the different islands of the group are inhabited by different races, is perfectly correct; and he distinguishes four species, the adults of which are characterized as follows:—

A. *Shell* broad, with more or less corrugated plates. *Skull* with the palatal region concave; outer pterygoid edge sharp in its entire length or for the greater part of its length; a deep recess in front of the occipital condyle; anterior wall of the entrance of the tympanic cavity constricted. One of the two species is from James Island.

1. *Shell* depressed, with the upper anterior profile subhorizontal in the male, and with the striæ of the plates not deeply sculptured; sternum truncated behind. *Skull* with the facial portion very short, and with an immensely developed and raised occipital crest. *Testudo elephantopus* (Harlan).

2. *Shell* much higher, with the upper anterior profile declivous in the male, and with the striæ deeply sculptured; sternum excised behind. *Skull* with the facial portion much longer, and with low occipital crest. *Testudo nigrita* (Dum. & Bibr.).

B. *Shell* oblong, smooth. *Skull* with the palatal region shallow; the outer pterygoid edge expanded in its whole length; no deep recess in front of the occipital condyle; anterior wall of the tympanic cavity not constricted.

3. *Shell* with some traces of former concentric striæ, compressed anteriorly into the form of a "Spanish saddle" in the male; sternum truncated behind. *Skull* with the tympanic cavity much produced backwards. *Testudo ephippium* (Gthr.), from Charles Island. *Extinct.*

4. *Shell* perfectly smooth, with declivous anterior profile in the male, and with truncated posterior extremity of the sternum. *Skull* resembling that of the young of the larger species, with the tympanic case not produced backwards. The smallest species. *Testudo microphyes* (Gthr.), from Hood's Island.

Part III. will contain the account of the still existing Tortoises of the Mascarenes, and Part IV. that of the extinct species.

Received June 9, 1874.

PS. The author has just received from Professor Huxley the carapace and skeleton of another adult male, which evidently belongs to a fifth species of Galapagos Tortoises. With regard to the form of the carapace, it resembles much that of *T. elephantopus*, the dorsal shell being depressed, broad, with the upper profile nearly horizontal. Striæ distinct, broad. However, the skull differs widely from that of *T. elephantopus*, and has all the characteristics of that of *T. ephippium*, from which it differs in having a circular tympanic opening. The form of the sternum is quite peculiar, the gular portion being much constricted and produced forwards, whilst the opposite end is expanded into the large anal scutes and deeply excised. This species may be named *Testudo vicina*.