

inct from the usual geographical divisions of the globe.

All these facts are then shown by Mr. Wallace to be a necessary result of the "*law of evolution*." The nature and amount of "*variation*" are exhibited by a number of curious examples; the origin, growth and decay of species and genera are traced, and all the interesting phenomena of isolated groups and discontinuous generic and specific areas are shown to follow as logical consequences.

The remaining subjects discussed by Mr. Wallace carry him into the realm of fierce controversies, and relate to theories involving problems awaiting further investigations for their solution. One of these subjects—The Position of the Great Oceans and Chief Land Areas—is dealt decisively by Mr. Wallace, who claims that "on the whole they have remained unchanged throughout geological time." This declaration of the author has been already challenged, and we shall watch with interest if Mr. Wallace is capable of maintaining his position on this subject.

Perhaps the most valuable part of this work is the discussion of the question of geological time as bearing on the development of the organic world, leading to an investigation as to the exact nature of past changes of climate.

In answer to those who may consider the subject last spoken of as unsuited to such a work as the present, the author claims that, although many of the causes introduced are far too complex in their combined action to enable us to follow them out in the case of any one species, yet their broad results are clearly recognizable, and we are thus enabled to study more completely every detail and every anomaly in the distribution of living things, in the firm conviction that by doing so we shall obtain a fuller and clearer insight into the causes of nature, and with increased confidence that the "mighty maze" of Being we see everywhere around us is "not without a plan."

No person should offer an opinion on the "theory of evolution" who has not studied this work of Mr. Wallace, for it forms an essential part of the literature of the subject.

#### NOTE IN REGARD TO "PRIMITIVE DESIRES."

In a communication published in an earlier number of "SCIENCE," (No. 29, Jan. 15, 1881) Dr. Clevenger, of Chicago, discusses the relation existing between the desire for food, and the desires connected with the multiplication of the species. He appears to draw the conclusion that hunger is the primitive desire.

There are some observations made by alienists, which strongly tend to confirm Dr. Clevenger's theory.

It is well known that under pathological circumstances, relations obliterated in higher development and absent in health, return and simulate conditions found in lower and even in primitive forms.

An instance of this is the *pica* or morbid appetite of pregnant women, and hysterical girls for chalk, slate pencil and other articles of an earthy nature. To some extent, this has been claimed to constitute a sort of reversion to the oviparous ancestry, which like the birds of our day sought the calcareous material required for the shell structure in their food (?)

There are forms of mental perversion, properly classed under the head of the degenerative mental states, with which a close relation between the hunger appetite and sexual appetite becomes manifest.

Under the heading "Wollust,"—Mordlust-Anthropophagie" Krafft. Ebing describes a form of sexual perversion, where the sufferer fails to find gratification unless he or she can bite, eat, murder or mutilate the mate. He refers to the old Hindoo myth of *Çiva* and *Durgā* as showing that such observations in the sexual sphere were not unknown to the ancient races.

He gives an instance, where after the act, the ravisher butchered his victim, and would have eaten a piece of the viscera, another where the criminal drank the blood and ate the heart, still another where certain parts of the body were cooked and eaten.\*

In reference to this question, Dr. Clevenger some time ago sent me the following interesting letter, which, anticipating much that I should otherwise say, may find a place here.

CHICAGO, February 17, 1881.

Dear Doctor:

The suggestions that you made, in a recent note to me, on the extension of the Hunger Theory to Man, are of too much value not to be published. Professor E. D. Cope kindly sent me the reprint of an article of his entitled "The Origin of the Will" which appeared in the *Penn Monthly*, for June, 1877, wherein the Professor takes the ground that Hunger is the primitive desire. "The movement of the *Amœba* in engulfing a *Diatom* in its jelly is as much designed, as the diplomacy of the statesman or the investigations of the student, and the motive may be the same in all three cases; viz.: hunger" (p. 438). "In the lowest animal the first movement was doubtless a mere discharge of force; but the first designed action, the appropriation of food, was due to a sense of want or hunger, which is a form of pain. This was followed by gratification, a pleasure, the memory of which constituted a motive for a more evidently designed act, viz.: pursuit" (p. 446). I am rather inclined to reverse the conception of the unconscious being derived from the conscious act and conclude that the pain of hunger is akin to the desire barium may have for sulphuric acid or any molecule may have for another.

Yours truly,

S. V. CLEVINGER.

I cannot see the necessity of considering "the movement of the *Amœba*, as designed as the diplomacy of the statesman etc." It is either a truism according to one reading, or utterly erroneous—according to another. If "as designed" in the above means—based on the same broad summation of registered impressions potent in intellectual activity, I must say that due regards have not been paid to very fundamental facts in framing the clause criticized.

E. C. SPITZKA.

#### LETTERS TO THE EDITOR.

[The Editor does not hold himself responsible for opinions expressed by his correspondents. No notice is taken of anonymous communications.]

To the Editor of "SCIENCE.":

In reply to the remarks made by Mr. Morris about my communication to you (No. 43), I would like to say a few words.

In the first place I beg to enter a protest against the gentleman's suggestion with which he prefaces his reply, to wit:

"The main difficulty seems to be that I have gone counter to certain authors whom they are disposed to consider as authorities," meaning Prof. Dolbear and the writer. As to this objection, so often raised at the present moment, it seems to me that it is only applicable in case the authority is adduced in place of an argument, or in order to fortify it. As a rule, men of an independent turn of mind do not believe or accept theories because this or that authority has advanced them, but because they are plausible to them—perhaps only as long as they do not hear of any other in regard to the subject. But, if they should adopt another theory in place of one formerly held, it is certainly not on account of the fact that it has emanated from a certain authority, but because their mode of thinking and working out problems agrees with that which originated the theory, *i. e.* the authority's.

Since I have nowhere in my letter quoted any authority specifically, gathering my arguments from the works of those men whose writings are most congenial to my frame of mind, and from them weaving the net of my intellectual product with an occasional glimpse from my

\* Ueber gewisse Anomalien des Geschlechts-triebes. Von Kraft-Ebing, Arch f. Psychiatrie VII.