

ing themselves from the ovary, and resting in the oviduct before being hatched.

10th. After having established in the eggs of different animals, the presence of several new proximate principles, iethin, ichthulin, iethidin, emydin, and comparing these results with those which MM. Dumas and Cahours obtained in the analysis of hens' eggs, we do not hesitate to propose to science to admit the existence in eggs of a new class of organic bodies, comprising some proximate principles which we will hereafter designate under the name of Vitelline substances or Vitelline bodies.

On the Formation of Brass by Galvanic Agency.*

Copper is more electro-negative than zinc, and separates more easily from its solutions than a metal less negative. If, then, in order to obtain a deposit of brass by galvanic means, we employ a solution containing the two component metals, copper and zinc, in the proportions in which they would form brass, there will only be produced by the action of the battery a deposit of real copper: the zinc, more difficult of reduction, remains in solution. What must be done, then, to obtain a simultaneous precipitate of the two metals in the proportions required, is either to retard the precipitation of the copper, or to accelerate that of the zinc. This may be effected by forming the bath with a great excess of zinc and very little copper.

Dr. Heeren gives the following proportions as having perfectly succeeded:—

There are to be taken of Sulphate of copper.....	1 part.
Warm water.....	4 parts.
And then Sulphate of zinc.....	8 "
Warm water.....	16 "
Cyanide of potassium.....	18 "
Warm water.....	36 "

Each salt is dissolved in its prescribed quantity of water, and the solutions are then mixed; thereupon a precipitate is thrown down, which is either dissolved by agitation alone, or by the addition of a little cyanide of potassium: indeed, it does not much matter if the solution be a little troubled. After the addition of 250 parts of distilled water, it is subjected to the action of two Bunsen elements charged with concentrated nitric acid mixed with one-tenth of oil of vitrol. The bath is to be heated to ebullition, and is introduced into a glass with a foot, in which the two electrodes are plunged. The object to be covered is suspended from the positive pole, whilst a plate of brass is attached to the negative pole. The two metallic pieces may be placed very near.

The deposit is rapidly formed if the bath be very hot: after a few minutes there is produced a layer of brass, the thickness of which augments rapidly.

Deposits of brass have been obtained in this way on copper, zinc, brass, and Britannia metal: these metals were previously well pickled. Iron may, probably, also be coated in this way; but cast iron is but ill adapted for this operation.—*Mittheilungen des Hannov. Geværvereins*, through *Bulletin de la Société d'Encouragement*, No. 16, August, 1854.

The Unity of the Human Race.

Attention having been directed to this question, by some incidental observations in the May number of the *Canadian Journal*, they have been followed up by further remarks con-

tributed to a succeeding one, designed to convey the impression of the total fallacy of arguments which have appeared to some impartial scientific inquirers, as favouring the idea of the genus MAN being divisible into several species. The writer of the present brief comment—(satisfied of the extreme difficulty of the question, touching, as it necessarily does, on the most momentous relations of man to the principles of moral government, responsibility, and divine atonement, as set forth in the sacred Scriptures)—is simply desirous of freeing the inquiry from any cumbering errors, which in the end can only work evil, whatever conclusion be established.

Premising, therefore, that nothing which is said here is intended to advocate the Non-unity of the Human Race, it is to be regretted that the author of the remarks, signed T.H.M.B., in the last number of the *Journal*, should have rested the defence of the Unity of the Race, or, in other words, the descent of all mankind from the one pair of progenitors, Adam and Eve, on arguments which will not stand the test of investigation as undisputed postulates.

1. "That the offspring of a male and female of diverse kind is barren," is *not* an established fact. Hunter and Owen, the two most distinguished of British comparative anatomists, concur in the opinion that "two species nearly allied to each other will produce a hybrid offspring, and that the hybrid is again productive with the pure breed." Mr. Bell, in his "British Quadrupeds," says—"It is well known that there are many instances of animals, undoubtedly distinct, producing young, which become fertile in conjunction with one or other of the parent kinds;" and Mr. Yarell, in his "History of British Birds," mentions various cases of fertile hybridity among birds. All these are instances produced by writers simply stating facts in Natural History, without reference to the supposed bearing of such an argument on the question of the unity or variety of human species, and it would be easy to quote additional impartial authorities. The argument is directly employed by Dr. Nott, in the "Types of Mankind," in an elaborate paper, entitled "Hybridity of Animals viewed in connection with the Natural History of Mankind," and there many additional examples are noted, and authorities cited.

2. "Experience," says the writer in the July number of the *Journal*, "teaches us that we have to fear, not the mixture of any foreign stock, but rather the continuance of intermarriages among tribes so nearly connected—the breeding in and in." But here, also, he overlooks, or is unaware of the very opposite use made of this very argument as bearing on the question of original descent from one pair. The learned and pious Dr. Pye Smith refers to the idea of men being descended from more than one primary pair as "Taking away some difficulties, such as the sons of Adam obtaining wives *not their own sisters*;" and the distinguished author of the "*Crania Americana*," remarks in language which, though somewhat irreverent in its tone, forcibly expresses feelings in some respects akin to those of Dr. Pye Smith: "If I could believe that the human race had its origin in incest, I should think that I had at once got the clue to all ungodliness. Two lines of catechism would explain more than all the theological discussions since the Christian era:

Q. Whence came that curse we call primal sin?

A. From Adam's children breeding in and in."

These words of the learned ethnologist, Dr. Morton, are quoted, not as approving of them, but simply as showing that the writer of the remarks in the last number of the *Journal* uses, without being aware of it, and specially distinguishes by italics, the

* A delicate galvanometer showed no indication of the passage of an electrical current.