mind, that perhaps they laid their eggs here too; and acting immediately upon this, as well as the suggestive fissures in their camping-ground caused by the sun, I proceeded to investigate those likely places in which they might deposit their ovicular treasures. These rents presented every stage of being filled in from one cause or another; and I had hardly commenced to scratch out the earth from one that was partially in this condition, than I came across masses of their eggs. They were not easily observed at first, as I turned them out with the stick I used in searching for them, from the fact that they resembled lumps of earth, as this substance adhered to their entire surface, either dusted over, or in little fragments, which latter rendered the resemblance still more deceptive. My plate represents one of these masses, that has been well cleaned off, in the lower right-hand corner (marked *A*). I have four before me that were collected at the time of my observations, and one of these is that figured in the plate.

The first of these masses that I pick up contains about thirty-five eggs, of a like size and shape to those removed from the body of a female several weeks before. They are in one rather irregular layer, being placed roughly parallel to each other, and entirely incased by the pellets of earth that have adhered to the mass. No true egg-pod was observed to enclose them; but, judging from the way in which the eggs of other large grasshoppers are laid, no doubt further observations will prove its existence. The eggs of this lot are all sound, and in an apparently safe condition till the time of hatching, as they were several inches below the surface of the ground. In the next collection the mass is of a circular form, with the eggs arranged pretty much as we found them in the first lot. Here, however, they are quite distinct, being simply dusted over with a little earth; and I find several of them have been opened at the sides, and their contents removed, apparently by ants or other insects. The two remaining masses are essentially of the same description as those we have just described. One is a little different in shape, being oblong instead of circular. This form may have been forced upon it from the narrowness of the fissure in which the eggs of this lot were laid. Of these four deposits, we may say that they contain an average of thirty eggs apiece; and this statement, no doubt, will be very near the correct one for the usual number found in such masses.

Examining one of these eggs under a two-inch objective, we find it composed of an outer coat, brown in color, fibrous in texture, and about 0.1 of a millimetre in thickness. The little fibres are placed side by side, and vertical to the surface of the egg. This coat fractures off in small pieces quite easily, and, in so doing, exposes the thin membranous and transparent inner coat, which allows one to see through it the amber-colored contents of the egg proper, which are of a viscid character and of about the consistency of old olive-oil.

This was the only occasion upon which I ever succeeded in finding any of the eggs of this grasshopper; and I am unable at the present writing to say how many times they deposit during a season, or how often Romalea moults during the same period.

It was my intention, when I commenced this paper, to enter to some extent upon the anatomy of this insect; but the idea was eventually abandoned from the fact that the anatomy of locusts and grasshoppers has been very ably and extensively worked up by many entomologists: so, to enter upon this subject at all in the present case would entail a minute study of details and comparisons that would result in carrying my paper much beyond its intended limits. Then, too, so far as the external appearance of Romalea is concerned, I have made every effort to convey a correct idea in my plate, both of the male and the female; and this work has been most carefully and beautifully reproduced by my engravers, Messrs. T. Sinclair and Son of Philadelphia, — a firm to whom our scientific men are under so many obligations for faithful reproductions of their work. This sketch, in its present form, then, is offered to the readers of Science as a contribution to the life-history of Romalea microptera; and it is hoped that in it at least a few facts will be discovered that will prove of interest to entomologists.

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RESOLUTIONS OF THE INTERNATIONAL GEODETIC COMMISSION IN RELATION TO THE UNIFICATION OF LONGITUDES AND OF TIME.

The seventh general conference of the International geodetic association held at Rome, and at which representatives of Great Britain, together with the directors of the principal astronomical and nautical almanacs and a delegate from the Coast and geodetic survey of the United States, have taken part, after having deliberated upon the unification of longitude by the adoption of a single initial

meridian, and upon the unification of time by the adoption of a universal time, has agreed upon the following resolutions: —

1°. The unification of longitude and of time is desirable as much in the interest of the sciences as in that of navigation, of commerce, and of international communications. The scientific and practical utility of this reform far outweighs the sacrifice of labor and the difficulties of re-arrangement which it would entail. It should, then, be recommended to the governments of all the interested states to be organized and confirmed by an international convention, to the end that hereafter one and the same system of longitudes should be employed in all institutes and geodetic bureaus, for general geographic and hydrographic charts, as well as in astronomical and nautical almanacs, with the exception of those made to preserve a local meridian; as, for instance, the almanacs for transits, or those which are needed to indicate the local time, such as the establishment of the port, etc.

2°. Notwithstanding the great advantages which the general introduction of the decimal division of a quarter of the circle in the expressions of the geographical and geodetic co-ordinates and in the corresponding time-expressions is destined to realize for the sciences and their applications, it is proper, through considerations eminently practical, to pass it by in considering the great measure of unification proposed in the first resolution.

However, with a view to give satisfaction at the same time to very serious scientific considerations, the conference recommends, on this occasion, the extension, by the multiplication and perfection of the necessary tables, of the application of the decimal division of the quadrant; at least, for the great operations of numerical calculations for which it presents incontestable advantages, even if it is wished to preserve the old sexagesimal division for the observations, for charts, navigation, etc.

3°. The conference proposes to governments to select for the initial meridian that of Greenwich, defined by a point midway between the two pillars of the meridian instrument of the observatory of Greenwich; for the reason that that meridian fulfils, as a point of departure for longitudes, all the conditions wished for by science, and because, being at present the best known of all, it offers the most chances of being generally accepted.

4°. It is suitable to count the longitudes, starting from the meridian of Greenwich, in the sole direction from west to east.

5°. The conference recognizes for certain scientific wants, and for the internal service in the great administrations of routes of communication, — such as the railways, steamship-lines, telegraphic and post routes, — the utility of adopting a universal time, along with local or national time, which will continue necessarily to be employed in civil life.

6°. The conference recommends as the point of departure of universal time and of cosmopolitan dates the mean noon of Greenwich, which coincides with the instant of midnight or with the commencement of the civil day, under the meridian situated twelve hours, or a hundred and eighty degrees, from Greenwich.

It is agreed to count the universal time from 0 hour to 24 hours.

7°. It is desirable that the states which, with a view to adhere to the unification of longitudes and of time, find it necessary to change their meridians, should introduce the new system of longitudes and of hours as soon as possible.

It is equally advisable that the new system should be introduced without delay in teaching.

8°. The conference hopes, that, if the entire world agrees upon the unification of longitudes and of hours by accepting the meridian of Greenwich as the point of departure, Great Britain would find in this fact an additional motive to make, on its part, a new step in favor of the unification of weights and measures by adhering to the *Convention du mètre* of the 20th of May, 1875.

9°. These resolutions will be brought to the knowledge of the governments, and recommended to their favorable consideration, with an expression of a hope that an international convention — such as the government of the United States has proposed — for confirming the unification of longitudes and of time should be decided upon as soon as possible.

ORIGIN OF THE MESODERM.

THE origin and composition of the mesoderm has been the subject of perhaps more discussion than any other single point in the whole range of embryology. Observers have given the most conflicting statements, for the most part due to incomplete observations; but now we are at last in a position to eliminate many of the false descriptions and to harmonize fairly well those we must regard as correct.

The first important advance was accomplished by His, who made the fundamental discovery that the mesoderm is not homogeneous,