which was quite round, except for two projecting stones. Here perfectly packed in with loose earth were twenty-five eggs, while again in a hole one and one-half inches deep, at the bottom of the tunnel, were fifteen more. Since the embryos of one of these sets were at a considerably more advanced stage, this female must have taken advantage of the excavation of another. At the time of ovulation the embryo, while at an advanced stage, is still not ready to hatch by probably some days or even weeks. This stage will be considered in detail in a later paper on the embryology of *Phrynosoma*.

Authors give the period of gestation as high as one hundred days in females kept in confinement, but while I have not complete data from coition to ovulation I believe that under natural conditions the time of carrying the eggs is much shorter. A female which had laid eggs in captivity in August, 1864, became very restless after the eggs were taken away. She tried constantly for two or three days to get out of the vivarium at the place where the wire screen had been raised to remove the eggs. Lockwood gives an instance of this maternal anxiety where a female attempts to distract the attention of an observor from her young.

LORD KELVIN ON THE METRIC SYSTEM.

THE chief objection urged in the recent debates in Congress against the adoption of the metric system in the United States was the fact that Great Britain, with whom our commerce is the largest, does not use the system. It seems, however, certain that the adoption of the system by both nations is only a matter of time, and as the question is now being considered, both by the British Parliament and our Congress, it would be highly desireable if an International Commission could be arranged so that unity of action could be secured by the two nations.

The London *Times*, whose influence has been said to be as great as that of Parliament, has recently given much space to discussion of the metric system. Of the large number of letters addressed to the editor we quote the following from Lord Kelvin as of special interest:

"In your very interesting leading article on the metric system in *The Times* of yesterday you treat, in what seems to me a thoroughly clear and fair manner, the question at issue in respect to the demand for legislation on the subject.

"While not ignoring the preference of merchants and manufacturers and scientific men for the metric system, you rightly give prominence to consideration for the convenience of the poorer classes, 'who have no great power to make their voices heard—at least in such discussions as these.' If it were true that the adoption of the metric system would be hurtful, or even seriously inconvenient, to them, that would be a strong reason against its being adopted in England. But in this respect we have, happily, a very large experience, and I believe it is quite certain that among the Germans, Italians, Portuguese, and other European peoples who have had the practical wisdom to follow the French in the metric system, all classes are thoroughly contented with it, and find it much more convenient for every-day use than the systems which they abandoned in adopting it.

"You rightly brush aside the duodecimal system as 'an ingenious mathematical exercise, but one whose figures must be read back into a decimal system before they can convey any meaning.' It seems to me, however, that you are quite right in maintaining that in ordinary every-day reckonings the shopkeeper and his customers must have halves and quarters; but I cannot go so far with you as to say 'halves, quarters and thirds.' Was any poor child ever sent to buy a third of a pound of tea? Did any

thirsty traveller, other than a mathematician, ever ask for a third of a quart of beer? It may be taken as a practical result of natural selection, permanent through thousands of years, that halves and quarters of the ordinary unit for any class of measurement are natural and convenient.

"In the metric system we find the kilogramme, half-kilogramme and quarter-kilogramme continually used in weighing. There is no obligation to always call the half-kilogramme 500 grammes, or the quarter-kilogramme 250 grammes. For smaller quantities the gramme is a thoroughly convenient measure. For distances travelled we have the kilomètre, half-kilomètre and quarter-kilomètre. For measuring cloths, ribands and tapes, in retail shops, we have the mètre and centimètre, which are thoroughly convenient and popular for all ordinary use. The centimètre (about four-tenths of an inch) is a thoroughly convenient smallest unit for most practical purposes; and for finer measurements the workman under the metric system has a great advantage in the millimètre and half or quarter millimètre over the British workman with his troublesome and fatiguing eighths, sixteenths, thirty-seconds and sixty-fourths of an inch.

"The great advantage of the metric system is its uniform simplicity, all measurements of length, area, volume and weight being founded primarily on the kilomètre. The kilomètre is very convenient for measuring great distances on the earth's surface, because a journey a quarter round the world is nearly enough 10,000 kilomètres for almost all practical purposes. If our travelling was habitually, not on the earth's surface, but along diameters through the centre, there would be some practical value in the merit discovered for the British inch by Sir John Herschel that it is approximately one one-hundred-millionth of a diameter of the earth.

"The thousandth of the French ton is the kilogramme; and the cubic decimètre, or the thousandth of the cubic mètre, is the litre, which is the common popular unit for liquid measure; so that any one who has correct weights can verify for himself his litres or other measures for liquid. This particular merit of the metric system, which, so far as I know, has not been much, if at all, noticed by your correspondents, is of very great importance in mechanics and engineering. In virtue of it the weight of any quantity of material is found in tons, or in kilogrammes, or in grammes, simply by multiplying its volume in cubic mètres, or in cubic decimètres, or in cubic centimètres, by its specific gravity; and thus a very great deal of labor which is entailed upon mechanical engineers, civil engineers and surveyors in England under the present system will be done away with when the metric system comes into use.

"But now, considering the wants and the convenience of the whole population, think of the vast contrast between the practically valuable simplicity of the metric system and the truly monstrous complexity of British measurements in miles, furlongs, chains, poles, yards, feet, inches; square miles, acres, square yards, square feet, square inches; cubic yards, gallons, quarts, pints, gills; tons, hundredweights, quarters, stones, pounds, avoirdupois (7,000 grains), ounces avoirdupois (437·5 grains), drams avoirdupois (27·34375 grains), pounds troy (5,760 grains), ounces troy (480 grains), drams apothecaries' (60 grains), &c. Looking at the question from all sides, and considering all the circumstances, I believe it will be found that the thorough introduction of the metric system, for general use in Great Britain, will be beneficial to all classes; and that the benefit will, in the course of a few weeks, be found to more than compensate any trouble involved in making the change."