found in the flowers, while the fruit itself was the terminating organ of the fructifying axis.

Having entered into an explanation of the processes of fertilization, fecundation, and maturation, the lecturer completed his outline of the whole round of the system. Reproduction was the great and grand law of nature: multiplication of life, and the increase of vital enjoyment, the aim of all organization. Death was no evil; it was but the end of an existence assigned to us for which we had no claim, no right of inheritance, beyond the boon of a leasehold from the great Lord of creation. Whatever means multiplied life, extended goodness and increased enjoyment. In natural situations, the causes which influenced the condition of plants seldom varied: occasionally the form and colour of the leaf or of the petals, were found to differ in plants of the same species; but in a few generations, most, if not all the plants produced, reverted again to the type of the species. The influence of conditions upon plants was best seen in those that man cultivated: our monstrous dahlias, our painted pansies, our pencilled carnations and pinks, and other splendid varieties, owed their peculiarities to the care of man; and so it was, also, with vegetables of the kitchen garden, and the green crops on arable land. By constant attention to the conditions requisite for such active developments, our cultivated varieties of cabbage weighed more pounds than the wild natives weighed ounces. The same, also might be said of our carrots, turnips, &c., by constantly encouraging the growth of the best varieties, and by feeding such varieties to the full with aliment proper for increasing their dimensions, we made such plants serviceable and profitable productions for man and beast. In such cultivation there doubtless was a limit; for while we almost entirely suppressed certain properties in plants cultivated, and encouraged others to grow to excess, we impaired the vigour of the plants' constitution, and thereby rendered them liable to disease. This was seen in the most valuable of all esculents at the present time. The potatoe had been awfully affected with a gangrenous disease, which had baffled the powers of the most acute physiologists to account for. At different periods of its growth, and under certain conditions of the atmosphere—chiefly when it was wet and warm for a few days' continuance—this malady made its appearance in black specks, which soon spread over the whole plant, particularly if the moisture and warmth continued, till whole crops had the same blackened appearance as if they had been cut down by frost. The tubers were attacked; gangrenous blotches appeared on the cuticle and epidermis, and, whether in the earth or in the store, the disease went on, until, sooner or later, it had completely destroyed the whole tubers. The disease, however, appeared in no season before the plants had attained their full growth, and the maturation of the tubers had commenced. The only crops which escaped this pestilence were those grown within pure bog-soil, the conservative nature of which seemed not only to preserve the tubers when growing, and within it, but also to communicate to them the power of withstanding its attack afterwards. One lesson we might draw from this fact, namely, that where we had not pure bog-soil in which to plant our potatoes, we should surround them with such dressing and tillage as most assimilated to it in conservative properties. Last year he (the lecturer) placed twelve seedling potatoe plants in pots containing the same kind of soil, but each treated with different kinds of tillage; other seedlings he likewise planted in the ground. On taking up the tubers, at the latter end of the summer, he found every plant more or less infected with disease, except one, which had been liberally treated with fine particles of coal ashes. From this plant he had gathered twelve small well-defined tubers, which he preserved over winter, and planted last spring in a drill manured with riddled coal-ashes as before. About ten days ago, the crop had been gathered, and though, at that time, more than one-half of the common crop of potatoes close to which the seedlings had grown were diseased, not a blotch was observable upon one single seedling tuber. Strange to say, he counted from one plant 46 well-defined tubers, and though the potatoes in the cellar gathered before the blight came on, and which were free from all taint when gathered, were now to a great extent infected, the seedling store, which was kept close by them, had withstood the attack, and most likely would continue to do so. He intended to plant again next spring, in the same way: using the same seed, in order to discover if a like result would follow. He was aware that coal-ashes, with cinders, &c., were used extensively for tillage in potatoe crops, and that they, like the rest, failed; but then, such ashes were mixed up with night soil, and other refuse, abounding with ammoniacal compounds; whereas the ashes which he had used were select and pure. For healthy growth, the potatoe required a modicum of potass: ammonia pushed the plants to excess, and thereby injured them. Ammonia, within due limits, excited and promoted vegetation; giving a more extended axis of growth, with more numerous and enlarged vegetating organs; but ammonia, in all proportions, retarded germination, and in excess, wholly destroyed it. Further, with regard to manures, it was melancholy to witness, almost everywhere, gross breaches of the natural laws, in their application to tillage on farms and cultivated grounds. We saw guano applied to white crops, while the best farm-yard manure, with its charge of silica, was spread over the ground for green and hay crops.—*Manchester Examiner.*

On the Difficulties and Niceties in the Construction of Lord Rosse's Telescope.—Dr. Robinson, at a recent meeting in Birmingham of the Society for the advancement of Science, gave a rapid sketch of the steps by which Lord Rosse was led to the construction of his instruments, the difficulties he met with in producing large speculæ of that most intractable and yet beautiful material speculum metal; which while it is as hard as steel, is yet so brittle that a slight blow would shiver it to atoms, and so sensitive to changes of temperature, that the affusion of a little warm water over its surface, not too warm to be disagreeable to the touch, would crack it in every direction. He then gave a sketch of the contrivances by which the leading difficulties were overcome. When describing the mould used, with its metalic bottom of packed hoop iron, he stated, that the plan proposed by Mr. Potter, and now claimed in no measured terms, as originating the entire improvements, had been tried and found utterly unfit for producing the proper surface. Dr. Robinson then gave a sketch of the process of grinding and polishing, and of the adjustments and mechanical suspension of the instruments; and he stated that a deviation of the speculum from the parabolic form at its outside circumference which should amount to the 1-100,000th part of an inch would render it optically imperfect, and that a deviation from the proper focal length of any part to the amount of the 1-1,000,000th part of an inch could be detected. He also stated that Sirius, when seen in it through the light was utterly insupportable to the unprotected eye, so that a person might as well attempt to look at it directly as at the concentrated light of the charcoal points produced by the action of Mr. Gasiot's battery; and the attempt made on one or two occasions by him was followed for several hours by a spot of light varying from intense red to blue, being constantly before his eye; yet, when properly viewed, it was a beautiful sharp bead of intense light.