

# SCIENCE.

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## COMMENT AND CRITICISM.

It may not be generally known that it is the duty of the National academy of sciences to examine and report upon such matters as may be submitted to it by the proper authorities of the national government. The problem is referred by the academy to a committee, composed of such of its members as are specially skilled in the science to which the subject appertains; and they consider it in the light of all accessible data, and, where necessary, submit the problem to experimental investigation and study. It is not unusual, also, to call into council experts in good standing who are not members of the academy. All these services are rendered gratuitously, only the actual expenses incurred being defrayed. It would seem as if no fairer way could be devised for obtaining an honest and intelligent opinion on the question at issue; since the government is unbiassed, and the jury untrammelled, while it consists of men whose ability and attainments are guaranteed.

Many reports have thus been presented to the government during the existence of the academy; but few seem to have attracted as much attention, or to have aroused as much feeling, as a recent report made to the commissioner of internal revenue upon the question as to the wholesomeness of glucose as an article of food. The conclusions reached are, 1°, that the manufacture of sugar from starch is a long-established industry, scientifically valuable and commercially important; 2°, that the processes which it employs at the present time are unobjectionable in their character, and leave the product uncontaminated; 3°, that the starch-sugar thus made and sent into commerce is of exceptionable purity and uniformity of composition, and contains no injurious substances;

and, 4°, that though having at best only about two-thirds the sweetening-power of cane-sugar, yet starch-sugar is in no way inferior to cane-sugar in healthfulness; there being no evidence before the committee, that maize starch-sugar, either in its normal condition or fermented, has any deleterious effect upon the system, even when taken in large quantities.

For reporting these conclusions, the members of the committee have been most severely attacked, and their honesty impugned. One of the most bitter and partisan of these attacks is contained in a recent 'leader' in the *Washington Evening star*, in which it is distinctly implied that this report favors the use of glucose in adulteration. Inspection of the report shows this deduction to be entirely without foundation; and the attack reveals the most unpardonable ignorance, or a deliberate intention to deceive. The use of glucose in adulteration is a well-known fact, and it is the duty of the commercial and legal fraternities to devise means for its prevention. The wholesomeness of glucose was a matter about which nothing was definitely known, and the fact of its being largely used in food made the matter of the gravest consequence. The consideration of this fact was the most important duty of the committee.

THE action of the New-England fish and game convention, recently assembled in Boston, should meet with cordial support in all quarters. The object of the convention was to secure uniformity in the fish and game laws of all the New-England states, and to see that these laws are so worded that they may be enforced. The present game laws, of Massachusetts at least, are in great measure a farce, as under them convictions are often impossible, even when infringement of the law is clearly proved. This is due, in part, to the varying close times in different states, — a condition of things which encourages the smuggling of ille-

gally acquired game into a neighboring state. A carefully considered draught of the proposed uniform laws has been presented to the Massachusetts legislature; and since it would be difficult to find, in all New England, persons more competent to draught such laws than those who recently came together for this purpose, it is hoped that the draught, without material change, will be accepted by the legislature. Provision is made for the granting of special licenses only to actual students, cutting off the nearly indiscriminate license-giving to young men who wish to form collections for their personal gratification, and not for true scientific study. The lobster question has become far more serious than most persons are aware. This important crustacean is now nearly extinct on our shores; so that the proposed close time, and the prohibition of the capture and sale of any lobster under one foot in length, are wise additions to the existing laws. The proposal to intrust the duties of game commissioners to the commissioners on inland fisheries, as is done in some states, is another important provision of the proposed law.

THE movement which within the last few years has caused a rapid organization of agricultural experiment-stations in various parts of the United States has developed another phase of the problem concerning the distribution of work in botanical research. The very marked development of botanical science within the last ten or fifteen years has necessitated specialization in several directions, and renders it necessary to consider which of the particular fields inviting research should remain identified with our higher institutions of learning. One of the most promising fields at the present time is to be found in vegetable physiology; but this is discovered to be naturally gravitating towards the experiment-stations and away from the colleges. This is a phase of the problem which should be carefully considered by those who have in hand the interests both of the science and of the stations; and care should be taken not only that those who are called to the charge of these important institutions should be capa-

ble of fully appreciating the importance of the interests involved in this particular branch, but that they should secure to it a position commensurate with its high character and the great possibilities which it offers in the way of practical results.

THE present season is remarkable for the brilliancy of the evening sky; the four brightest planets, Venus, Mars, Jupiter, and Saturn, being all above the horizon at once. To add to the brilliancy of the spectacle, this takes place at a time when Orion, Taurus, and others of the brightest constellations, are near the meridian, and nine stars of the first magnitude above the horizon. An additional point of interest to possessors of telescopes is, that Saturn is approaching both his perihelion and the point of greatest opening of his rings, and is therefore in that part of his orbit most favorable for study. About the middle of April an addition will be made by the simultaneous appearance of Uranus, Neptune, and Mercury, so that all eight of the major planets will be visible at the same moment. Of course a telescope will be required to see Uranus and Neptune, but the six others will be visible to the naked eye.

ENGLAND has been rejoicing in a piece of elephant worship since Mr. Barnum placed at the zoölogical gardens in London the white elephant which he recently procured from Burmah. The natives of the east affirm, and the Europeans are willing to corroborate their statements, that the body of a dead elephant, except of such as die by the rifle, is never found. Whether they never die, or betake themselves to some remote body of water before they depart this life, is a disputed point. The great esteem in which the elephant is held is said to be due to the last incarnation of Gautama, before he was born as Buddha, being that of an elephant; yet, as the Buddhists' idea of the path of beings is on through at least seven heavens to the final total annihilation, it is not perfectly clear why they should not suppose the soul to finally take refuge in an old elephant, to rest with it in its unknown grave.