juices; of the addition of ascorbic acid (vitamin C) contained in these juices and of other growth-promoting substances[2] which are known to contain nucleic acid or its derivatives.

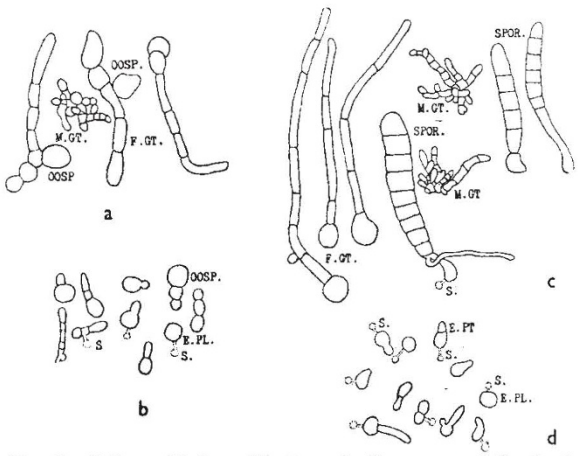

FIG. 1. Cultures 40 days old of germinating spores of *Laminaria saccharina* Lamour.
a, Gametophytes from culture in sea-water to which 1 c.c. of 1 per cent extract orange juice was added.
b, Gametophytes from control culture, sea-water alone.
c, Gametophytes and young sporophytes from culture of sea-water and added inorganic salts, with 1 c.c. of 1 per cent extract orange juice.
d, Gametophytes from control, sea-water and inorganic salts.
s., Spore; *e.pl.*, 'effective plant'; *oosp.*, oosphere; *m.gt.*, male gametophyte; *f.gt.*, female gametophyte; *spor.*, young sporophyte.

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[1] Harries, *Ann. Bot.*, **46**, 893; 1932.
[2] Mockeridge, *Biochem. J.*, **14**, 732; 1920. *J. Exper. Biol.*, **4**, 301; 1927.

Birds and Butterflies

IN reference to the palatability of butterflies, it may be interesting to record that the Australian grey butcher bird, *Cracticus torquatus*, does not object to eating butterflies. A tame bird which I have had under observation, though pinioned, manages to catch skippers of the species *Anasynta sphenosena*, when these are flying round flowers within reach. I have also seen the bird catch the same species in the early morning before the butterflies have become active. The butterflies are seized with the bill, beaten once or twice against the ground or against some hard object, and then swallowed whole. The fact that on one occasion the bird caught and ate a skipper soon after it had been fed with its customary ration of raw meat indicates that it was not hunger that persuaded the bird to take the butterfly.

The same bird also eats the introduced sand hill snail, *Helix pisana*. The victim may be either crushed with the powerful bill or beaten against the ground, but an anvil stone such as used by the English thrush is not utilised. Much of the shell is swallowed, to be disgorged later in the pellet. Examination of these pellets also shows that ants are freely eaten.

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Public Library, Museum and
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April 12.

Chemistry of Œstrogenic Substances

IN view of the results published by E. Friedmann in NATURE of April 20, we decided to investigate the effect upon ovariectomised rats of the two compounds specifically mentioned by him as œstrogenic, namely, sodium benzylidenepyruvate and sodium furylidenepyruvate. These were prepared and purified exactly as described by Friedmann[1]. They were dissolved in water, the strength being 100 mgm. in 3 c.c., and administered in 6 doses of 0·5 c.c., each compound being injected into 5 rats. The technique employed was that described in the paper by Allan, Dickens and Dodds[2].

A similar experiment was performed using the two free acids (100 mgm. dissolved in 3 c.c. of sesame oil and divided into 6 doses of 0·5 c.c.), five rats being used for each of the two acids.

Examination of the vaginal smears showed that there was no œstrogenic activity either with aqueous solutions of the sodium salts or with solutions of the free acids in oil when injected in amounts of 100 mgm. per rat.

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[1] Friedmann, E., *Helv. Chim. Acta*, **14**, 783; 1931.
[2] Allan, H., Dickens, F., and Dodds, E. C., *J. Physiol.*, **68**, 348; 1930.

Research and the Library

THE suggestions of Drs. Berry and Bonser on this subject[1] will be of interest to all who are appalled by the unabating flood of scientific literature.

There are two points to which I would direct attention. First they state: "It has long been the practice of chemical journals to accept only new matter, and this cut down to the briefest account. This principle can be adopted with advantage in other scientific subjects". Chemistry is an exact science, and what may be an excellent method of presenting its results may not be best for a biological subject. In zoology a statement of results or observations is valueless unless it is followed by a discussion in which the new results are correctly orientated in relation to previously known facts. Facts by themselves mean nothing; only when they are seriated into a hypothesis do they take on any value.

The adoption by certain zoological journals of the criteria of chemical journals has had the unfortunate effect of restricting discussion and has produced a multitude of isolated pieces of information. Thus I cannot agree with Drs. Berry and Bonser when they suggest that accounts of the debates of certain societies should not be published, for by ordered discussion alone can science be advanced. The mere accumulation of details and isolated facts is not scientific advancement.

A scientific paper should consist of three parts: an introduction explaining why and how the investigation was undertaken; the observations; and finally their interpretation. If all papers were so composed and there was adequate discussion of all points raised, not only would the publication of

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