organic structures and others were present the meteorite could not have undergone a temperature in excess of 200° C. May I suggest that before accepting this conclusion we should consider:

(1) Were the subsequent investigations which are reported in ref. 3 carried out at the same time of the year as the earlier ones? Pollen of *Corylus* and *Alnus* is only produced for a limited period and that from a nearby tree can attain high values as a biological contaminant of laboratories during this period.

(2) At what temperature would the meteorite have solidified had it, in fact, exceeded the suggested maximal temperature of 200° C. and been molten during entry of the Earth's atmosphere? Pollen grains are very resistant to oxidation and indeed the normal palynological procedures involve oxidizing off the other plant material to leave only pollen grains, fungal spores and such structures as the thecæ of the Desmothoracan *Clathrulina*.

It would be preferable to disprove the simplest explanation that these structures are of terrestrial origin before moving to more elaborate hypotheses. It is, incidentally, of considerable interest that what might be explained as a pollen tube can be seen leading away from one organism (Fig. 2 of ref. 1).

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Identity of Organized Elements from Meteorites

THE publication[1] of further illustrations of organized elements from the Orgueil and Ivuna meteorites raises the question of whether the possibility of their terrestrial origin has been adequately explored. The illustrations, although prepared under extremely difficult conditions, prompt the following tentative suggestions towards identification. The elements illustrated by Nagy, Claus and Hennessy in their Fig. 1*a* and *b* could well be the spore of a cryptogam, possibly a basidiospore. The object depicted in Fig. 5 (of Nagy *et al.*) in size, shape, rough wall and equatorial crest strongly resembles an ascospore of one of the larger members of the *Aspergillus glaucus* group. The object in Fig. 4*b* (Nagy *et al.*) resembles in size, shape, possible septation and surface characters a spore that occurs frequently in the air spora of southern England, though we have not yet been able to identify it or trace it to its source. It is presumably a spore of one of the Fungi Imperfecti, and a specimen from air has been illustrated recently[2]. The element illustrated in Fig. 3 (Nagy *et al.*) has some resemblance to a pollen grain of nettle (*Urtica*) except that it is only about two-thirds the usual diameter.

To refer to illustrations in the earlier article[3], it seems that Figs. 2 and 3 could well be a fungus spore. The remarkable object depicted in Fig. 4, except for the halo, which may be an extraneous deposit, has some resemblance in size and three thickened areas to a germinating pollen grain.

Any one person can be familiar with only a fraction of the morphological diversity of plant spores, and a large series of drawings and photographs of these organized objects from meteorites should be published so that as wide a range of specialists as possible can attempt identifications.

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Further Life-forms in the Orgueil Meteorite

I OBTAINED some test material derived from the Orgueil meteorite—at my request—from G. Claus and B. Nagy. I crushed the meteorite sample in a sterile porcelain mortar to powder and, putting it under sterile circumstances partly into glycerol, partly into 'Caedax', I examined it under a microscope. During my examinations I found in the meteorite powder six different filamentous formations which, relying on their qualities known so far, remind one of the algae.

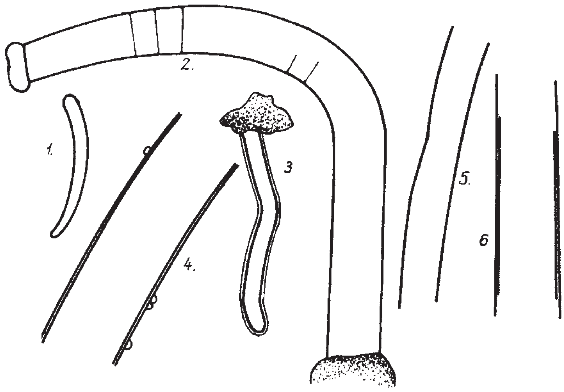

Fig. 1

Characteristics of the filaments are as follow: breadth, 3μ; length, 40μ; somewhat curved. One end of the filament is rounded off, the other slightly acuminate (Fig. 1, 1). Part of the filament is 4μ wide and 55μ long. It is covered with a follicle, the apex is rounded off (Fig. 1, 2). Part of the filament is 12μ wide and 170μ long. The filament is slightly tapering towards the apex. The apical cell is like a head (Fig. 1, 3). Part of a 23-μ wide filament is shown in Fig. 1, 4. On the double wall here and there small warts can be seen. Part of a 10-μ wide filament is illustrated in Fig. 1, 5. In part of a 16-μ wide filament, here and there the double cell wall can be easily seen (Fig. 1, 6).

Part of the filaments described here may possibly be indigenous to the meteorite.

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