have to believe firmly in the project he wanted to have supported. If he could not get the others to agree with him, he could then use his proportional share of the total crackpot pot to support the project. The researcher, of course, would never learn from which funds his support came.

After a period of a decade, agencies using this method might review its results to see whether the plan had been a total loss or whether there had been some brilliant and significant exceptions. A friend of mine, a professor in a major university, told me of sitting on a fund-granting committee that had a few thousand dollars left over after they had made all the grants that they could agree on for the year. At his request, part of the remaining sum was given to an unknown young woman at an institution of no renown for research. This woman seemed to have a good idea but her qualifications were highly doubtful. At the end of three years her investigations were completed, and there was unanimous agreement that her work had been outstanding—superior to any of the others supported. Such an event might be repeated many times over if the crackpot pot were institutionalized.

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## Identification of the Auxin Present in Apple Endosperm[1]

A RECENT paper by Luckwill (*1*) provides evidence for the rather wide distribution of a natural plant growth substance that is not identical with indoleacetic acid (IA). This unknown auxin has been characterized by paper chromatography and has an Rf value of 0.83 as compared to 0.35 for IA (*1*). Luckwill reports that apple endosperm is a particularly rich source of this unidentified growth substance. Identification of the fruit setting factor of corn endosperm as the ethyl ester of indoleacetic acid (EtIA) (*2*), suggested the possibility that the substance isolated from apple endosperm might also be EtIA.

An ether extract of endosperm tissue from 55-day-old apple seeds was prepared according to the methods employed by Luckwill (*1*). Paper chromatograms were run using Whatman No. 1 strips and *n*-butyl alcohol saturated with 3% ammonium hydroxide as the solvent. Standard solutions of IA and EtIA were prepared in ethyl ether at a concentration of 10 mg/ml. After removal of the papers and drying, the spots were developed using the ferric chloride-sulfuric acid reagent of Tang and Bonner (*3*). Preliminary observations had indicated that EtIA as well as IA gave a bright reddish-violet color on filter paper when this reagent was applied. All three chromatograms gave spots of the same color and approximately the same intensity. The following Rf values were obtained. First trial (total solvent migration 12 cm): IA, 0.35; EtIA, 0.82; and endosperm extract, 0.81. Second trial (total solvent migration 20 cm): IA, 0.35; EtIA, 0.84; and endosperm extract, 0.83. The fact that only the one spot was found with the endosperm extract would seem to preclude the presence of indoleacetic acid. The agreement of the Rf values that were obtained in this study with those found by Luckwill is very good. This strongly suggests that the native auxin of apple endosperm is the ethyl ester of indoleacetic acid, and that this substance may be of rather widespread occurrence in other plants.

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## True Scientists

IT is likely that discussion of Dr. Hammett's letter (SCIENCE, **117**, 64 [1953]) on true scientists may go on for a long time, or at least as long as editorial patience will permit, if for no other reason than that true is a relative term, but true science is an umbrella under which all scientists would like to be covered.

There is however one point raised by Dr. Kahn (SCIENCE, **117**, 697) in his comment on Dr. Hammett's letter with which I wish to take issue. Dr. Kahn suggests that the conception of a scientist as a "man who sits in an ivory tower" is not only untrue but "prejudicial to the interests of science, since in these days to be different is to be suspect." Is a scientist today who dares to be different doing something thereby which is prejudicial to the interests of science?

Is it not of supreme importance to be different when circumstances seem to demand it, whether it is suspect or not? Is not the very fact that all too many scientists do, in effect, sit in an ivory tower, devoting their energies and even their reading almost exclusively to their teaching and research, that has led to demands by some that there be even a moratorium on scientific investigation for a time, until enough is known of motivation and control of human behavior to make safe use of scientific discovery?

Whatever else the true scientist may be, he must be a dedicated person—dedicated not simply to his field of study but to human welfare in its broadest sense. He cannot afford to detach himself from concerns of economics, government, politics, or any other of the many human activities without which democracy cannot long function. If he does so, it will be at his own peril and ultimately that of science itself. For real science can only progress in an atmosphere of freedom, and freedom will last only as long as intellectual leaders, of whom scientists make a large proportion, dare to be nonconformists when the prevail-