of Cambridge to the Academy of Sciences, to which Eugene Chudakov, vice-president of the Academy, has replied; and a group of biochemists at Cambridge, headed by Sir Frederick Gowland Hopkins and Dr. Joseph Needham, have sent "greetings and assurances of utmost support" to Russian biochemists through Profs. Bach and Engelhardt, of the Academy of Sciences, and the latter has replied, expressing his conviction that "the cause of progressive humanity will triumph over Hitlerism". Prof. Kapitza and Prof. P. A. M. Dirac, Lucasian professor of mathematics in the University of Cambridge, have also exchanged cables of greeting affirming their belief in victory for freedom of scientific thought.

"Fantasia"

THE new film, "Fantasia", shortly to be generally released, will appeal not only to lovers of music, but also, from several points of view, especially to men of science. The basic theme of the film is the interpretation by artists of several well-chosen musical works. The fact that artists were chosen to interpret the music is a new departure for the screen; but of equal interest are the evidences of new technique adopted. The stereoscopic effect produced at the beginning of each half of the programme gives an almost complete impression of reality—in fact, for a moment it seemsal most impossible not to believe that the Philadelphia Philharmonic Orchestra and its conductor, Stokowski, are on the stage of the cinema. The first presentation—one of Bach's toccatas and fugues, so difficult to interpret as anything other than pure music that even the composer could not find a name for it—is here interpreted in a series of colour and wave forms that should delight and intrigue the physicist. He, too, will be amused by the introduction to the audience of the sound track as a "screen personality". Coyly comes the sound track on the screen where he is induced to demonstrate how he reacts to the sounds of various wind and string instruments. Though his reactions are impressionist to a degree, they are obviously based on the actual scientific facts.

Tschaikovsky's "Casse-noisette" is interpreted in a beautifully coloured floral ballet of a type familiar to regular cinema-goers; but susceptible lovers of Beethoven might be irritated by the interpretation of his "Pastoral" symphony-life on Mount Olympus. It is said that Beethoven claimed to compose always according to a "picture" he had in mind. Several years ago, the Russian Ballet based his wonderful seventh symphony on a religious theme, and it still remained Beethoven. But in "Fantasia", Beethoven appears as someone quite different, and not to our liking. The unusual continuity of the whole piece, without the slightest break between movements, might have contributed to our irritation. But Beethoven was a musician; to disarm such criticism "Fantasia" can definitely claim to be an artistic appreciation and interpretation of music.

There was one exception—and this number was an exposition of the origin and evolution of life by a group of men of science, and accompanied by Stravinsky's music. At any rate, the item claimed to be the origin of life; actually it represented the origin of the earth and was followed up by the origin of life and its evolution up to the arrival, and comparatively sudden extinction, of the giant reptiles of the Mesozoic. It is obvious that Mr. Disney carefully consulted authoritative astronomers and biologists before embarking on this unique production. The film lost its cartoon qualities and became almost real—Amœba engulfing its prey, Hydra somersaulting, other aquatic life, Pterodactyls, the small-brained herbivorous Brontosaurus and the fierce, carnivorous Tyrannosaurus, all coming to life in their true perspective so far as science is able to visualize it. This number will probably appeal most of all to men of science; despite certain detailed faults, it hus much more than entertainment value, as indeed has the whole film.

The Profession of Chemistry

IN his presidential address to the Society of Chemical Industry (*Chemistry and Industry*, July 12, 1941), Prof. J. C. Philip outlined the history of recent efforts made by chemists to bring order and co-operation into their ranks by the formation of some kind of federal union. These efforts began at the close of the War of 1914–18, at the instigation of the late Lord Moulton, and are still continuing. So far they have had little result, and their recapitulation would have little interest except to chemists and possibly to other professional men who desire to substitute co-operation for extreme individualism and *laisser-faire*. Sectionalism, as Prof. Philip says, has undoubtedly been a determining factor in the want of success, but another, not mentioned by him, has been inability to choose the right type of leader, a defect which seems to be common in many democratic organizations. A learned professor, however brilliant in his own special field, will fail unless he possesses the power of influencing other men's minds, and his failure may lead to the emergence of the self-appointed type of leader who has a gift for oratory, that harlot of the arts, *et præterea nihil*.

At the present time, the movement towards union is in charge of a Chemical Council, which was set up in July 1935, under a deed of agreement between the Chemical Society, the Institute of Chemistry, and the Society of Chemical Industry. Each of these societies is represented by three delegates, and there are also three co-opted representatives of industry, nominated by the Association of British Chemical Manufacturers. The Council undertakes the general administration of the funds available for the educational and scientific publications of the constituent bodies. The library of the Chemical Society, which has long outgrown the narrow confines of its rooms in Burlington House, is to remain the property of that Society but to be administered by a joint committee of the various bodies contributing to its maintenance. The Council disposes of funds that for the present seem adequate, but these would have to be largely supplemented were the old idea of a Chemistry House to materialize. A year ago a supplementary agreement was signed

extending the validity of the original agreement until 1947. Progress in collaboration has recently been effected by instituting a scheme which facilitates joint membership of two or three of the societies under payment of a reduced total fee ; and by giving members a wide choice of publications up to a specified limiting value. The provisions of the deed aim primarily at 'roping in' as many as possible of the 14,000 (?) scientific chemists now practising their profession, with the view of promoting the progress and status of chemistry in its threefold aspect of science, profession and technical applications. Nothing appears to be said about the obligations of the profession to the community, but there is little doubt that these could be and would be far better met by a united profession than by what has been called "a disunited rabble"

Rockefeller Foundation's Gifts to the National Central Library

AT a time when the Trustees of the National Central Library are faced with difficulties beyond the normal, as a result of the loss by enemy action of about half its books and the greater part of its London building, the emergency grant of £2,200 which has recently been made by the Rockefeller Foundation comes as a most welcome gift. Some of the books lost will be irreplaceable, but, fortunately, many of them can be bought as the demand for them arises. The timely aid of the Rockefeller Foundation will be appreciated by many thousands of persons who will benefit by the valuable additional service thus placed at their disposal. The grant is also another illustration of the practical sympathy of the United States with the difficulties which have to be dealt with by those responsible for the work of cultural institutions in the British Isles. By helping the National Central Library, the Rockefeller Foundation is indirectly helping all other libraries which make use of the national service. The Rockefeller Foundation is also continuing to provide money for the upkeep of the Bureau of American Bibliography at the National Central Library.

Physical Society: Annual General Meeting

THE sixty-seventh annual general meeting of the Physical Society was held on July 25 in the lecture theatre of the Science Museum, with Prof. Allan Ferguson in the chair. The reports of the Council and of the treasurer were adopted and the following officers for 1941–42 elected. *President :* Dr. C. G. Darwin ; *Hon. Treasurer :* Dr. C. C. Paterson ; *Hon. Secretary (Business) :* Dr. W. Jevons ; *Hon. Secretary (Papers) :* Mr. J. H. Awbery ; *Hon. Librarian :* Dr. L. C. Martin ; *New Members of Council :* Prof. E. N. da C. Andrade and Dr. H. Shaw. Prof. Ferguson will undertake the duty of acting-president until Dr. Darwin is able to take office. The Council has to record a very successful year's work in difficult circumstances. Despite exceptionally heavy losses by death, the membership of the Society is scarcely affected, standing at 1,070 members at the end of 1940, as compared with 1,084 members twelve months earlier.

For the science meetings of the Society, the Council has adopted a new policy which has been justified by its complete success, the majority of the meetings having been devoted to discussions and to lecture-surveys. Discussions have been held on colour, the liquid state, the electrical and general physical properties of plastics, and the teaching of the fundamentals of electric and magnetic theory. Lecture-surveys have been given on contact-angles (Prof. Allan Ferguson), anemometry (Prof. P. A. Sheppard), gravity meters (Dr. J. McG. Bruckshaw), the magnetic hysteresis cycle and its interpretation (Prof. L. F. Bates), and some mechanical properties of glass (Prof. W. E. S. Turner). An outstanding event was the formation, within the ambit of the Society, of a Group for the discussion of scientific and technical problems relating to colour. The Group has already held three very profitable meetings, and its success encourages the initiation of similarly constituted groups for the discussion of problems of special interest to experts on the subjects to which the groups are devoted.

A Clouded Yellow Butterfly Invasion

ONE of the most interesting entomological features of the summer of 1941 is the invasion of clouded yellow butterflies (*Colias croceus* or *Edusa*) from the Continent which, since the first week of July, have been seen in Lancashire and Cheshire and various other parts of the north of England. This immigration has nothing to do with the War ; it is one of the more spasmodic immigrations of insects which occur from time to time, the classic example being the 'great *Edusa* year' of 1877, when flights ranged from the Orkneys to Land's End and Ireland. Several were seen in 1933, 1926, 1913, 1872, 1864, 1862 and 1859 and odd specimens in the north in other years like 1930. The greenish-white variety *helice* Hubn. has also been seen, while the rarer pale clouded yellow (*C. Hyale*) was observed in 1860, 1872, 1891, 1900–1, and at least one specimen has been noted at Ness, west Cheshire, during the present immigration of clouded yellows. A few clouded yellows from south Europe reach the south of England almost every year, arriving during May or June ; third brood larvæ are sometimes found in autumn on trefoil, lucerne or clover, and attempts at hibernation have been noted, but there is no record of surviving the winter here. Excepting in 1892, the common and pale clouded yellows are seldom abundant immigrants together.

Mineral Composition of Crops

IT is generally recognized that the mineral composition of crops has an important bearing on human and animal health, and increasing attention is being paid to the interrelationships between such fields of investigation as soils, fertilizers, plant composition and the nutritive value of food. Although it is true that several nutritional diseases can be directly traced to the deficiency or excess of particular minerals, as yet the data are usually quite insufficient for the laying down of direct recommendations for agricultural practice. A valuable review and com-