consumers abroad. The first action of the company was to establish a showroom in Paris, which is now well stocked with samples. Not only can visitors to the showroom obtain full information regarding the apparatus, but also in most cases facilities are available for the demonstration of the exhibits. Although the showroom has been open for a few months only, the results are most encouraging, and a considerable number of inquiries are being dealt with daily. Paris is found to be essentially suitable for a centre of this sort, as is shown by the fact that the visitors' book already contains names of visitors from thirteen different countries. The general catalogue is divided into nine sections under the following headings;—(1) Chimie, Industries chimiques. (2) Electricité, Industrie électrique. (3) Marine. (4) Aviation, Aérodynamique. (5) Métallurgie, Mécanique de précision, etc. (6) Médecine, Bactériologie, Physiologie, Ophtalmologie, etc. (7) Topographie, Géodésie, Astronomie, Météorologie, Dessin. (8) Physique expérimentale. (9) Photographie, Cinématographie. It will be seen that the range of apparatus covered is very extensive. In connection with their Paris showroom the "B.S.A.M." have formed a reference library of English scientific and technical books which are at the disposal of visitors. The showroom is under the management of Mr. F. C. Dannatt.

DR. NORMAN R. CAMPBELL is bringing out, through Messrs. Methuen and Co., Ltd., a work entitled "What is Science?" the aim of which is to explain what science really is and the kind of satisfaction which may be derived from its study. Two other books in Messrs. Methuen's spring list make an especial appeal to readers of NATURE, viz. "Atomic Theories," by F. H. Loring, and "Biological Chemistry: The Application of Chemistry to Biological Problems," by Prof. H. E. Roaf. The first-named volume is written to give in a concise and simple form an account of all the important theoretical and experimental researches on the atom, its structure, and the arrangement of electrons in atoms, in molecules, and in ions. The second may be regarded as an introduction to the more specialised branches of its subject. It will consist of three sections, dealing respectively with a brief description of the parts of organic and physical chemistry which relate to biological chemistry; the accumulation of energy by plants and the interconversion of carbohydrates, fats, and proteins; and the liberation of energy from the food substances.

Our Astronomical Column.

INTERESTING BINARY STARS.—Mr. J. S. Plaskett investigates, in vol. i., No. 2, of the Publications of the Dominion Astrophysics Observatory, Victoria, B.C., the orbit of the spectroscopic binary U Coronæ. Both spectra are visible, each being of type B3. The following are the elements of the two stars in terms of the sun, the brighter star being placed first:—Radii, 2·90, 4·74; masses, 4·27, 1·63; and densities, 0·175, 0·015. Taking the surface intensity of the bright star to be −2·7 magnitudes, as compared with the sun, of which the absolute magnitude is 4·86, the distance is deduced as 400 parsecs. It is, however, noted that the fainter star, though of the same spectral type, has only one-eighth of the surface brightness; this indicates that the correlation of surface brightness with type is less close than some physicists have assumed.

Two other eclipsing binaries of type B, μ^1 Scorpii and V Puppis, are discussed by Miss A. C. Maury in *Popular Astronomy* for January. The masses come out fairly large in these cases, $(m+m_1)\sin^3 i$ being 16·5 and 33 respectively. These would not be very different from the real masses, for, owing to the occurrence of partial eclipses, i cannot differ very much from 90°. μ^1 Scorpii is stated to be of the β Lyræ type, showing double eclipse and continual variation. Stellar tides are suggested in explanation of part of the change of light, and also of changes in the character of the spectrum.

A famous visual binary, 70 Ophiuchi, is discussed by F. Pavel, of Neubabelsberg, in *Ast. Nach.*, No. 5082. It is shown that the irregularities are explicable on the assumption that the principal star is describing the following small orbit owing to an unseen companion:—$T=1800{\cdot}0$, $a=0{\cdot}033''$, $e=0{\cdot}1$, $\lambda=150°$, $i=0°$, period $=6{\cdot}5$ y. The author then obtains for the orbit of the visual pair:—$T=1895{\cdot}965$, $a=4{\cdot}495''$, $e=0{\cdot}4988$, $\phi=29{\cdot}916°$, $\omega=166{\cdot}648°$, $\Omega=122{\cdot}184°$, $i=58{\cdot}743°$, period $=87{\cdot}710$ y. He obtains 0·36 for the ratio of masses, and 1·06 times the sun for the joint mass of the system on the assumption that the parallax is $0{\cdot}225''$.

THE GREEN RAY OR FLASH.—It has often been noticed when the sun is setting behind a well-defined horizon that the last appearance of the disc is a bright green flash. Various explanations have been put forward, some asserting that it was a case of complementary colour, due to fatigue of the retina. This was negatived by the flash being seen at sunrise. Another view was that the sea-water had something to do with it, but it was found that the effect could also be seen at a distant land horizon. There remained the explanation of atmospheric dispersion; but here again there were diversities of view, some holding that the normal colour dispersion would suffice, others invoking abnormal phenomena of the nature of the mirage.

L'Astronomie for December contains an interesting research by MM. A. Danjon and C. Rougier, of the Strasbourg Observatory. They installed a spectroscope on the roof of Strasbourg Cathedral, and were able to demonstrate that the phenomenon arises from normal dispersion. There is an image of the sun produced in light of each wave-length, and as the sun gets low these images are more and more widely separated. When the sun was a few degrees above the horizon the observers were able to obtain a spectrum showing red only when the slit was at the lower limb, and a spectrum with the red absent when it was at the upper limb. When the altitude is less the blue and violet are altogether absorbed, and the green image of the sun's upper limb is the last visible at sunset. Their horizon was formed by distant low hills, but they point out that a sea horizon may be better in that the presence of the bands of water-vapour helps to separate the red light from the green. The spectra obtained are reproduced in the article, and seem to settle the nature of the phenomenon beyond a doubt.