attracted the attention of many chemists the world over, and among those chemists Tiffeneau takes a leading place. Indeed, no one more than he had exploited this important aspect of molecular rearrangement so exhaustively and with greater experimental skill and ingenuity. Some conception of his comprehensive outlook may be gathered from a perusal of the elaborate résumé on glycols which he wrote for the "Traité de Chimie" edited by Grignard, Dupont and Locquin. By his studies on the semihydrobenzoin and semipinacolinic transpositions as well as on the vinyl dehydration of glycols, he threw much light on the question of distribution of affinity in molecules. Further, the reaction of semipinacolinic deamination furnished him with an excellent means of contrasting the migrational aptitude of hydrocarbon radicals. Among the numerous topics which he investigated may be mentioned the isomerization of epoxides, the elimination of halogen from iodohydrins, and the stereochemistry of compounds of the type of ethylhydrobenzoin. Dealing more particularly with hypnotics and anæsthetics, he advanced pharmacology by his work on the relationship between chemical constitution and physiological action, and he also experimented with the effects of adrenaline, ephedrine, hordenine, organic compounds of mercury, and many other substances.

Like Pasteur, Tiffeneau was a keen French patriot, and during the occupation of Paris by the Germans he did much to keep the spirit of research alive in the University. The news of his sudden death came as a blow to his many friends, who are not unmindful of what they owe to his inspiration.

ALEX. MCKENZIE.

WE regret to announce the following deaths:

Dr. F. W. Aston, F.R.S., fellow of Trinity College, Cambridge, on November 20, aged sixty-eight.

Dr. H. E. Durham, who took part in various expeditions to study tropical diseases, and in recent years was supervisor of the laboratories of H. P. Bulmer and Co., Ltd., on October 5, aged seventy-nine.

NEWS and VIEWS

Nobel Prize for Chemistry for 1944: Prof. Otto Hahn

PROF. OTTO HAHN, to whom the Nobel Prize for Chemistry for 1944 has been awarded, in recognition of his discovery (with F. Strassmann) of the neutron-induced fission of uranium and thorium (in its chemical aspects), has for long been universally recognized as the outstanding 'radioactive' chemist of his generation. Born sixty-six years ago, he began his studies in radioactivity in his early twenties under Sir William Ramsay at University College, London, proceeding from there, as Soddy had done previously, to work for a time with Rutherford in Montreal. In London he discovered radiothorium, an intermediate product between thorium and thorium *X*, and in Montreal radioactinium—and also carried out purely physical experiments on the magnetic and electric deflexions, and on the ranges, of the α-particles from thorium *C*. Having returned to Berlin (1906), he isolated mesothorium 1 (1907) and mesothorium 2 (1908), and from that date he continued to contribute regularly to—and in general to lead—the great advances in specialized chemical technique required for pioneering work with the heavy radioactive elements. His thirty years association with Lise Meitner (1908–38) provides a classical example of the happy collaboration of chemist and physicist to the mutual advantage of both sciences. It was terminated only by the rigour of the laws of racial discrimination which were enforced in Hitler's Germany. No doubt it is more than a slight consolation in the face of imposed separation that Meitner and Hahn should each have been able to contribute, one on the physical, the other on the chemical side, to the original elucidation of the problem of uranium fission. During the War, Hahn continued to work on the chemical side of this problem and many of the results which he and his colleagues obtained were permitted full publication by the German censor.

The award of the Nobel Prize is a fitting tribute to a scientific achievement of immense range and singleness of purpose: Hahn may have missed the broader generalizations, the displacement law, the significance of nuclear isomerism—although he discovered the first recorded instance of this phenomenon (1921) and established its essential features as the result of masterly experimentation, he may, in later years, have been in possession of the clue to fission before he would admit it even to himself, but no single man has done more for his subject. In 1906, Rutherford wrote ("Radioactive Transformations", p. 69) "the results so far obtained by Hahn are of the greatest interest and importance"; his subsequent discoveries, over a period of forty years, have maintained that high standard throughout.

Nobel Prize for Physics for 1945: Prof. Wolfgang Pauli

THE Nobel Prize for Physics for 1945 has been awarded to Prof. Wolfgang Pauli, of the Federal Technical Highschool at Zurich, which before the War became through him a centre of theoretical physics. When the danger of a German invasion seemed imminent, he went to the Institute for Advanced Study, Princeton. Among the many brilliant disciples of Sommerfeld, Pauli and Heisenberg are the most outstanding. While he was a student, Pauli wrote the article on the "Theory of Relativity" for the "Mathematical Encyclopedia" which, to this day, is one of the best presentations of this subject. He took an active part in Bohr's interpretation of atomic spectra in terms of quantum theory, and he was the first to attribute to the electron, apart from its three ordinary quantum numbers, a fourth one, $s = \pm \frac{1}{2}$, which was, soon afterwards, recognized by Goudsmit and Uhlenbeck to be the angular momentum (spin). This led Pauli to his main discovery, the exclusion principle; originally derived from experimental facts about spectra (of helium and other atoms) it turned out to be one of the most general rules of quantum theory. It served Bohr as the main tool in his explanation of the periodic system of the elements. After Bohr's theory