

chair of chemistry at Lafayette, which position he held until his death in November last.

Bingham's first discussion on viscosity and fluidity was published in 1906, and he made this subject his life's work. His main contributions to science were in this field of flow processes, on the definition of fundamental properties, on the precise measurement of viscosity, fluidity, plasticity and related characteristics, and on the design of instruments for precision measurements of plastic flow. The original type of plastometer, devised by Bingham, is still in use, with slight modifications, in many laboratories to-day. We are indebted to Bingham for a clear and concise statement of our knowledge of flow phenomena, and for building this knowledge into a coherent science, to which he gave the name, now universally used, of 'rheology'. It was Bingham, also, who introduced the term 'poise' as the basic unit of viscosity, and whose persistent interest and encouragement resulted in the investigation by the National Bureau of Standards of the absolute value of the viscosity of water. (See J. R. Coe and T. B. Godfrey, *J. App. Phys.*, **15**, 625; May 1944.)

More than a hundred original papers on rheological subjects were published by Bingham and his asso-

ciates during the past thirty years, but Bingham's interests were not, by any means, confined solely to this particular field. Physiology, chemical education, inorganic chemistry, mensuration, and even the illumination of roads and highways owe much to Bingham's interest and suggestions for improvement.

The tributes in this memorial edition from the American scientific societies bear adequate testimony to the high esteem in which Prof. Bingham was held as a man of science, to his capabilities as a lecturer and chairman of committees, to his technical skill, to his pleasant personality and friendly spirit, and to his indefatigable enthusiasm and work on behalf of the Society of Rheology, which he formed, and on behalf of the other professional bodies of which he was an active member.

WE regret to announce the following deaths:

Prof. Ulric Dahlgren, professor emeritus of biology in Princeton University, on May 20, aged sixty-five.

Mr. H. E. Mitton, an authority on mining research, on September 7, aged seventy-five.

Dr. W. Payman, of the Safety in Mines Research Board, on August 12.

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## NEWS and VIEWS

### New Air Speed Record

A NEW speed record of 616 m.p.h. was set up by Group Captain E. M. Donaldson, leader of the R.A.F. High-Speed Flight on September 8. The aircraft was a Gloster 'Meteor', jet propelled, with Rolls Royce 'Derwent' internal combustion turbine engines. The actual course was a three-kilometre one as laid down by the F.A.I. international regulations, off the Sussex coast between Rustington and Kingston Gorse. The R.A.F. High-Speed Flight is stationed at Tangmere, near Chichester, and has been waiting for some time past for suitable weather. The principal requirement is a high temperature, in order to reduce the retarding compressibility, and had the air been as warm as might have been expected at this season a much higher speed could have been reached. The speed is taken by regulation as the average of four runs over the course, two in each direction. The recorded speeds were 623, 610, 623 and 609 m.p.h., which beats the previous record made by Group Captain H. J. Wilson, on an earlier design of 'Meteor', by 10 m.p.h. The machine appeared to be under perfect control in spite of the bumpy air conditions and a stiff breeze blowing across the course. This is a tribute to both the skill of the pilot and the accuracy of the design, as when flying near the sonic speeds the aircraft is susceptible to changes in compressibility effects that set up a see-saw track which not only reduces the overall speed over the course, but is also dangerous to the structure of the machine.

It is disappointing that a speed of 1,000 kilometres an hour (621.3 m.p.h.) was not reached, as it was felt that this round figure would have sounded more impressive in countries that use the metric system. The air temperature was about 69° F. during the runs. Had it been more than 75° F.—a not unfair expectation at this time of the year—a speed of about 630 m.p.h. could probably have been attained. Records of this kind are made on machines specially designed for maximum speed, and carefully maintained and nursed for the attempt. It is nevertheless

interesting to note that the impact of this development on ordinary everyday flying has raised the speeds of this considerably. Squadron Leader Cotes-Preedy flew a 'Meteor Mark IV', similar to the standard R.A.F. high-speed fighter, from Paris to Geneva on September 9 at an average speed of 510 m.p.h. This machine has been purchased by the Swiss military authorities as part of the equipment of a high-speed development flight in that country.

### American Chemical Society Awards:

#### Priestley Medal

THE Priestley Medal, the highest honour in American chemistry, has been awarded to Prof. Roger Adams, head of the department of chemistry in the University of Illinois and one of the nation's leading organic chemists. The Priestley Medal, named after the discoverer of oxygen, is the fourth high scientific honour won by Prof. Adams within the past year. While he was serving with General L. D. Clay (deputy military governor of the American Occupation Zone in Germany), he received the Davy Medal of the Royal Society of London in recognition of his extensive researches in the field of organic chemistry. After he returned to the United States, he was awarded the Theodore William Richards Medal of the American Chemical Society's North-eastern Section for conspicuous achievement in organic chemistry. Later he was selected to give the first Remsen Memorial Lecture at the Johns Hopkins University in Baltimore, inaugurating an annual series founded by the Maryland Section of the Society in honour of the late Ira Remsen, pioneer in American organic chemistry. Prof. Adams, who was president of the American Chemical Society in 1935, also holds the Willard Gibbs Medal of the Society's Chicago Section, granted in 1936 for his work in synthetic organic chemistry and his achievements as a teacher, and the William H. Nichols Medal of the New York Section, conferred in 1927 for distinguished contributions to original research.