complete a picture of the whole process as possible. The objective chosen to give coherence to the observations was the simplest one that came to mind: to concentrate all the observations on the central stream of the Trade Wind which climbs up the mountain-side and passes through the saddle; to measure the properties of the air as it crosses the coast and again as it debouches through the saddle, and to see whether the depletion of its water vapour and sea-salt content could be related to the amount of rain which fell on the slopes, and to the salinity of the rain. The Trade Wind inversion provided a convenient and easily recognized upper boundary to the mass of air involved in the experiment.

This 'budget' operation, as it was called, required the co-operation of many people. On one day, the mass of air chosen for investigation was that which crossed the coast between 1 p.m. and 3 p.m. It was estimated that it would take two hours to reach the saddle, so that it would be passing out of the experimental area between 3 p.m. and 5 p.m. Between 1 and 3 p.m., two light aircraft patrolled offshore, and observations were taken of the sea-salt spectrum, the temperature and humidity of the air, and the water content of clouds, up to the base of the inversion. During the same period, pilot balloons were run at stations along the coast in order to determine the boundaries of the stream which converged into the saddle. At 1 p.m. observers set off on two parallel roads towards the saddle, emptying and rinsing out the hundred rain gauges which had been set out at intervals of a mile apart. They aimed at reaching the saddle at 3 p.m.; at that time other observers followed up along the same roads, measuring the rain which had fallen in the two-hour period and taking samples for salinity determinations; they aimed at arriving at the saddle area at about 5 p.m. At 2.30 p.m. the Dakota aircraft took off, climbed over the sea, taking soundings of temperature and humidity, and then went inland above the orographic cloud to the saddle. Here there was usually a clear space, and a sounding was made as low down as possible, usually to within 500 ft. of the ground, measuring temperature, humidity and sea-salt content. The Dakota continued observations until 5 p.m., alternately sounding in the saddle area and making runs down the mountain-side to Hilo in the orographic cloud, at fixed ground clearances, usually 1,000 and 2,000 ft. On these runs the liquid water content and droplet spectra of the orographic cloud were observed. During the period 1 p.m.-5 p.m., the spectrum of the raindrops was observed at two levels on the slope, and electric charges on cloud droplets at one level. A 10-cm. and a 3-cm. radar observed the motion of showers; cameras on the upper slope of Mauna Loa recorded the motion of the cloud tops, and anemometers at the coast, on the slope, and in the saddle measured the run of the wind.

Despite an unusually fine stretch of weather during November, a great deal of information was gathered. Several months will be needed to reduce all these observations to tabular form for publication later this year.

The burden of the many detailed arrangements for so large a group of people inevitably fell on the Honolulu group who acted as hosts; without their efficient organization of accommodation, transport and the like, much less would have been achieved. Excellent co-operation was given, too, by the aeronautical and defence authorities at Hilo Airport, and by the people of Hilo.

OBITUARIES

Mr. J. F. Didusch

JAMES FRANCIS DIDUSCH, internationally known as a medical and embryological illustrator, died on March 16 in Baltimore, where he was born on June 17, 1890. His grandfather was an artist-lithographer in Munich, Germany, and his father a sculptor and wood-carver in Baltimore. James Didusch studied both mechanical drawing and the fine arts at the Maryland Institute of Art and Design, and medical illustration with the late Max Broedel at the Johns Hopkins Medical School. In 1913 he joined the newly formed Department of Embryology of the Carnegie Institution of Washington, and worked in its Baltimore laboratory during his entire professional career with only one brief interruption.

Didusch illustrated the researches of the distinguished embryologists, F. P. Mall and George L. Streeter, and their colleagues with a remarkable combination of accuracy and beauty. He would never draw anything which he could not see clearly and comprehend. Thus he acquired a sound knowledge of human development, and himself became a contributor to the precision and clarity of work published from the Department and sometimes an anonymous colleague in the research. Although from time to time he also illustrated clinical books and articles, his real life-work is in the successive volumes of the Carnegie Contributions to Embryology. Among hundreds of drawings, it is difficult to choose those which best illustrate his beautiful style. Notable among his early work are the plates for L. H. Weed's monograph on the cerebro-spinal spaces (vol. 5) and for Florence Sabin's article on the primitive blood vessels (Vol. 6). Later on he drew a series of pictures of important human embryos which have become classics of embryological art and are widely copied in the text-books, the finest of all perhaps being the lateral view of a 10-somite embryo, Carnegie 5078, in Volume 20 of the Contributions. A special talent for clear and simple diagrammatic representation without losing the similitude of animal tissues is shown by a page of diagrams illustrating the placentation of the rhesus monkey, Vol. 27, p. 9. Even in the last volume published in his lifetime (Vol. 35) the drawings for L. J. Wells's monograph on the diaphragm, made when his health was already failing, show his characteristically firm touch in line drawing and his refined half-tone style. Didusch carried his zeal for perfection all the way to the press-room, where he often supervised the inking of the rollers or helped mix the colours so that the drawings would be properly printed.

Mr. Didusch was a man of very sociable disposition. Loving good music, good food and a good story, he endeared himself to all his fellow workers, who will remember him as a generous friend as well as a stimulating collaborator and one of the greatest scientific illustrators of his time.

GEORGE W. CORNER

Mr. W. R. Sherrin

WILLIAM ROBERT SHERRIN was born at Twickenham on May 20, 1871, and died at South Norwood, London, on March 22 after a long failing in health. He was a son of John Sherrin, R.I., from whom he inherited a skill of hand, brush and pencil. As a boy he was sickly, and an outdoor life was prescribed: