THE Air Ministry, in an official *Notice to Airmen,* according to the London *Times,* details innovations recently introduced in the dissemination of meteorological statistics and forecasts by wireless telegraphy for the use of aircraft. Reports are issued from the Croydon aerodrome on a 900-meter continuous wave each day, including Sundays, at hourly intervals between 7.35 A.M. (G.M.T.) and 4.35 P.M., the data in each consisting of observations made 35 minutes previously at the following places: Felixstowe, Croydon, Biggin Hill, Lympne, Beachy Head, Dungeness, and Botley Hill (North Downs). In addition to the usual information, the messages now include the direction and speed of the low cloud, the character of the sea-swell and the visibility towards the sea is distinguished from that over the land, the latter important feature being observed at various points along the channel coast. A statement is also added regarding the conditions prevailing on the North Downs as viewed from Biggin Hill, while at 8.25 A.M. the complete results of a pilot-balloon ascent at Croydon or Lympne are appended whenever available. Every statement is suffixed by the latest Meteorological Office estimate of the probable weather during the remaining hours of daylight. Reports of a similar character are also issued on the same wave-length from Le Bourget seven times daily, the observations transmitted in this case being derived from St. Inglevert, Abbeville, Maubeuge, Havre, and Le Bourget.

THE department of hygiene and public health at King's College, London, which offers complete courses of instruction for the various degrees and diplomas in public health, has recently been reorganized under the general supervision of Professor Simpson. Professor Sommerville, lectures on hygiene, sanitary law and administration, sanitation and vital statistics, etc., and Mr. Rhys Charles on the Food and Drugs Acts. Bacteriology and parasitology is taught by Professor Hewlett and Dr. Taylor, and the chemical laboratory work is in charge of Mr. William Partridge. The laboratories are open daily for instruction and research, and arrangements are made to suit the convenience of those engaged in practise. Weekly demonstrations on sanitary appliances and visits to places of sanitary interest are arranged. A special course on industrial hygiene is given by Dr. Legge (October to February) and courses on school hygiene are given by Dr. Malcolm (October to June).

As the part of the university extension work the Boston Teachers' School of Science will offer this fall courses in botany, geography, geology and zoology. The courses will be given by Professor W. J. V. Osterhout, of Harvard, Professor Elizabeth F. Fisher, of Wellesley; Professor George H. Barton and Professor George H. Parker, of Harvard. The school also announces its autumn course of field lessons in geology as follows: September 11, Baker Bridge; September 18, Andover; September 25, Braintree; October 2, Wayland; October 9, Orient Heights; October 16, Naugus Head; October 23, Roberts; October 30, West Quincy; November 6, Kendal Green.

UNIVERSITY AND EDUCATIONAL NEWS

THE University of Buffalo has received from O. E. Foster a gift of $400,000 for the erection of a chemistry building. It has also received anonymous gifts of $250,000 toward endowment and of a library building.

THE late Dr. J. G. Bartholomew has bequeathed to the University of Edinburgh the sum of £500, to be applied towards the foundation of a chair in geography.

RECENT appointments at Harvard University include those of Richard D. Bell, assistant professor of biological chemistry; W. T. Bovie, Ph.D., '14, assistant professor of biophysics and instructor in bacteriology; Stanley Cobb, '10, assistant professor of neuropathology; Calvin G. Page, '90, assistant professor of bacteriology; Marshal Fabyan, '00, assistant professor of comparative pathology; Joseph C. Aub, '11, assistant professor of physiology; Robert B. Osgood, '89, instructor in orthopedic surgery, and James B. Ayer, '03,

and Lesley H. Spooner, '03, instructors in neurology and bacteriology, respectively.

In the department of chemistry of the West Virginia University the following additions have been made to the teaching staff: Dr. C. A. Jacobson, professor; Dr. E. C. H. Davies, associate professor; Lily B. Sefton, assistant professor, and A. E. Owens, instructor.

New additions to the staff of the division of agricultural biochemistry at the University of Minnesota are: instructors, Arthur K. Anderson, Paul F. Sharp and G. S. Taylor; assistants, Walter F. Hoffman, Earl R. Norris, Martin W. Sandstrom, Clifton W. Ackerson and Edward F. Danielson. S. D. Wilkins, special analyst, recently resigned to enter commercial work and his position has been filled by the appointment of Mr. Arnold H. Johnson.

David F. McFarland, M.S. (Kansas), Ph.D. (Yale), formerly associate professor of industrial chemistry and metallurgy at the University of Illinois, has been appointed professor and head of the department of metallurgy in the school of mines of the Pennsylvania State College.

Dr. Joshua M. Slemons, professor of obstetrics and gynecology in Yale University School of Medicine, New Haven, has resigned and is succeeded by Dr. Arthur H. Morse.

Dr. Ardrey W. Downs, formerly assistant professor of physiology at McGill University, Montreal, has accepted the chair of physiology in the University of Alberta.

Dr. W. S. Lazarus-Barlow has been appointed to the university chair of experimental pathology at Middlesex Hospital Medical School, London.

DISCUSSION AND CORRESPONDENCE

GALILEO'S EXPERIMENT FROM THE LEANING TOWER

To the Editor of Science: Professor Cajori's article entitled "Aristotle and Galileo on Falling Bodies"[1] recalled to mind a question recently asked by a member of the department of science in this school. The question was: "Just what experiment did Galileo perform from the leaning tower of Pisa?" The writer did not know, and endeavored to find out, without success. Some notes he made may be of interest.

Poggendorf, "Geschichte der Physik," p. 224, 1879, says "Galileo dropped balls of different sizes" and gives no citation of authority.

Rosenberger, "Geschichte der Physik," 1882, Vol. I., p. 141, states that Galileo proved by experiment from the leaning tower of Pisa in 1590 that light bodies fall as fast as heavy bodies. No citation.

The same author in Vol. II., p. 16, states that Galileo let fall stones singly and tied together and they fell in the same time. Also says that Galileo dropped a 100 lb. shot and a ½ lb. shot and that they reached the ground not the width of a hand apart. No citation.

Heller, "Geschichte der Physik," Vol. I., p. 346, 1882, states that Galileo dropped from the leaning tower of Pisa, pieces of wood, lead and marble and that they fell in nearly the same time. No citation.

Cajori[2] gives a circumstantial account of the celebrated experiment and says, "One morning before the assembled university, he ascended the leaning tower, and allowed a one pound shot and a one hundred pound shot to drop together. The multitude saw the balls start together, fall together, and heard them strike the ground together." No citation.

Apparently all of the above statements have their foundation in Viviani's "Racconto Istorico di Vita di Galileo Galilei," written some time after 1654, at the request of Leopold of Tuscany. Viviani[3] states that Galileo demonstrated by repeated experiments made from the leaning tower of Pisa that bodies of different weights falling through the same medium move with equal velocity. He also states that the experiments were made in the presence of the other readers, philosophers and all the students. Viviani knew Galileo from

[1] Science, 60, 615, 1920.

[2] "History of Physics," p. 32, 1899.

[3] "Opere di Gal.," Edizione Nazionale, XIX., p. 606.