which we have made, will be found in a paper published quite recently.[2]

J. Bishop Tingle,
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Baltimore, Md.,
April, 1907

CURRENT NOTES ON METEOROLOGY AND CLIMATOLOGY

VON BEZOLD, PAULSEN, RUSSELL

Death has claimed three men whose work in meteorology has made their names well known the world over: von Bezold, Paulsen and Russell.

Wilhelm von Bezold died on February 17, 1907. Born in Munich in 1837; Ph.D. of Göttingen; professor at Munich; organizer of the Bavarian Meteorological Service; professor of meteorology at Berlin; director of the Prussian Meteorological Institute at Berlin; his best-known and most important writings concerned meteorology as the physics of the atmosphere. A collection of his contributions to meteorology was published in October, 1906, by Vieweg, of Braunschweig.

Adam F. W. Paulsen (1833–1907) died at Copenhagen on January 11. Physicist; director of the Danish Meteorological Institute; active in organizing and supervising the extended meteorological work of that institute; critical student of the aurora borealis and of the meteorological conditions of Greenland; established permanent telegraphic communication between Iceland and Europe for the transmission of meteorological despatches; member of the International Meteorological Committee.

H. C. Russell died at Sydney, New South Wales. Since 1870 government astronomer and director of the Sydney Observatory; organizer of the New South Wales meteorological service; untiringly enthusiastic in increasing the number of his observers and in publishing the results of their work; fellow of the Royal Society.

SOUNDING THE AIR OVER THE OCEANS

The Prince of Monaco recently addressed the Scottish Geographical Society on 'Meteorological Researches in the High Atmosphere' (*Scot. Geogr. Mag.*, March, 1907), giving a popular account of the work which he has carried on during the past three years in exploring the free air over the oceans by means of kites, captive balloons, *ballons-sondes* and pilot balloons. On his recent expedition to Spitzbergen, the Prince reports that these pilot balloons were followed by means of special theodolites up to an altitude of 82,000 feet at the very least. At the moment one particular balloon disappeared it was at a distance of 49½ miles from the observers. The pilot balloon ascents of 1906 showed that near the 80th parallel north latitude, at a height of 13,600 meters, more or less, there are winds of 132 miles an hour, with a direction S. 68° W.

RAINFALL AND THE SALTON SEA

Professor A. J. Henry (*Monthly Weather Review*, December, 1906) discusses briefly the, at present, very pertinent question of the possible effects of the new Salton Sea on the climate of the surrounding area. The excessive rainfalls of 1905, which have been attributed to the influence of the Salton Sea, are shown to have had nothing to do with that body of water. It is undoubtedly true that the relative humidity in the immediate vicinity has been somewhat increased, but this does not mean that there must be an increase in rainfall.

CLIMATE OF VIRGINIA

In a recent paper on 'Climate and Boundaries of Virginia' (*Bull. Amer. Geogr. Soc.*, February, 1907) G. T. Surface gives a brief account of the climatic features of the state, subdividing into three provinces, tidewater; middle piedmont; and Blue Ridge, valley and Appalachia. The discussion is inadequate so far as giving any very clear picture of the actual conditions is concerned. A table of mean annual temperature, rainfall and snowfall, and length of the growing season (1900–1905) is given for 'representative' stations. We note that in the western districts "the most successful growers plant their orchards on the mountains, because the valleys are not

[2] *Amer. Chem. Jour.*, **37**: 483 (1907).

only more subject to frost, but the winter temperature is lower than for the mountains." This is a common result of inversions of temperature, generally noted in mountainous regions everywhere.

RAILROADS AND VEGETATION IN THE TROPICS

ONE of the chief difficulties in the maintenance of way along railroads in the moist tropics is the constant struggle against tropical vegetation. This is also a source of great expense. Along the Tehuantepec Railroad, as pointed out by Dr. E. O. Hovey (*Bull. Amer. Geogr. Soc.*, February, 1907), mechanical means have proved inadequate, although they are still used, and the railroad company has adopted a chemical which is applied, from a tank car, at a high temperature and under pressure, by means of a steam sprayer. This kills the roots, as well as the superficial growth.

NOTES

BULLETIN 59, New Mexico College of Agriculture, by J. D. Tinsley, contains the meteorological observations taken at the experiment station between 1892 and 1905; also the results of temperature and rainfall observations at various stations in the Mesilla Valley for most of the years 1851–1890, previously published in Gen. Greely's Report on the Climate of New Mexico some years ago.

Dr. W. N. Shaw, director of the British Meteorological Office, has been appointed reader in meteorology in the University of London.

R. DEC. WARD

EXPERIMENTS ON HUMAN NUTRITION

THE Carnegie Institution of Washington has for several years been interested in the study of problems in human nutrition, which it has aided with grants. One of its first undertakings in that line was in connection with the investigation carried on by Professor W. O. Atwater, at Middletown, Conn., in cooperation with this department, the work being continued under his successor, Dr. F. G. Benedict. This joint effort has been directed to increasing the efficiency and precision of the respiration calorimeter, previously developed with the aid of this department, and especially to providing the oxygen annex, making it a closed-circuit apparatus.

So great has been the interest of the institution in this work and its belief in the possibilities open to it, that it has decided to establish it as one of its permanent lines of research and to provide a special laboratory for it, as has already been done for a few other lines. The nutrition laboratory will probably be located in New York, in connection with one of the large hospitals, and will be devoted particularly to inquiries in relation to medicine, physiology and hygiene. The fitting up of the apparatus and laboratory will be in charge of Dr. Benedict, who will direct the subsequent investigation.

There are many problems concerned with nutrition in disease and convalescence, and with the energy output and hence the food requirements of the body under various pathological conditions, as well as many questions of ventilation and other branches of hygiene, to the study of which the respiration calorimeter is especially adapted. Such questions have a wide interest and are of far-reaching importance, and as the department's researches have developed there have been urgent requests that they be taken up. They are, however, distinctly separate from the investigations of the nutritive value of agricultural food products, to which the department's efforts have been directed, and have seemed rather to belong to some other agency than one working primarily in the interests of agriculture and looking to annual appropriations for continuation.

It is especially gratifying, therefore, to all interested in the subject of nutrition in its broadest aspects, that the Carnegie Institution should have recognized its importance and decided to provide for it as one of its special departments of research. It is thus given greater permanency and greater freedom in scope than could be the case under legislative appropriation, and the possibilities are opened for extending the investigation into theoretical lines where it is much needed.

Especially is this departure gratifying to