a great variety of other works, illustrating his versatility, his industry and his extensive interests. Inaugurating in France the era of railways, he also, as a sequence and as a part of that great work, had a hand in the perfection of their bridges and stations and locomotives and other rolling stock, and in all forms of related constructions, whether architectual or mechanical. He it was who, perhaps more than any other, created the systems of construction, organization and operation of the French railways. In 1848 he was called upon to rebuild the old wooden bridge at Asnieres, and showed his originality and boldness by reconstructing it in wrought iron, and, further, in rebuilding it and transferring traffic to it from the temporary construction improvised upon the burning down of the old bridge, without the delay of a single regular train. From that time the substitution of iron as a building material for wood, in his work, was a fruitful source of fame. He performed the, as then thought, most marvellous feats and always with success; for his computations were always accurate and based upon data ascertained by his own experiments and observations to be safe and correct. The framing of exposition buildings, in 1878 and in 1889, by Dion, his favorite disciple, and by Contamin, his follower, were illustrations of the methods of Flachat.

Flachat reconstructed the foundations of the cathedral of Bayeux, saved its central tower from imminent danger of falling, and restored the church, without accident or delay, and this after the experts consulted had declared the case beyond remedy. He there used a now common form of support, hollow iron columns, of large diameter, filled with concrete, as substitutes for the failing foundations.

The memorial erected in Paris is placed by his now few surviving pupils, aided by many friends and numerous admirers, as a testimonial of their appreciation of the service rendered by the great engineer to his country.

R. H. T.

CURRENT NOTES ON METEOROLOGY.

MOHN'S GRUNDZÜGE DER METEOROLOGIE.

MOHN'S *Grundzüge der Meteorologie* has long been one of the favorite text-books of meteorology in Europe. Its author is well known as professor of meteorology at the University of Christiania and Director of the Norwegian Meteorological Institute. The book was first published in Norwegian, and was translated into German by the author himself, the last German edition (the 4th) bearing the date 1887. We now have a new German edition, the fifth (Berlin, Reimer, 1898), enlarged from 364 to 419 pages, and with several changes. Among the additions we note a description and a cut of the Assmann aspiration psychrometer and of the Richard thermograph. There is a new chart of mean annual ranges of temperature, and the other temperature charts are revised. Mention is made of so recent a phenomenon as the Paris *trombe* of September 10, 1896. The general arrangement of the book is the same as in the former edition, and there is, unfortunately, the same lack of an index.

VAN BEBBER'S WETTERVORHERSAGE.

THE present year brings us also a new edition, the second, of Van Bebber's *Wettervorhersage* (Stuttgart, Enke, 1898), the first edition being dated 1891. The book is now some forty pages longer than when it was first written, and a new chapter on weather forecasting for several days in advance has been added. The substance of this chapter was contained in a pamphlet by the author, published in 1896, under the title *Die Beurtheilung des Wetters auf mehrere Tage voraus.* The plan of the work is, in brief, to present by means of a large number of weather charts (over two hundred), arranged

systematic order, the common weather types and the succeeding changes which occur over Europe. After finding in the book a weather map which represents exactly or nearly the same conditions as prevail on any particular day, one can form a judgment as to the kind of weather that will probably obtain on the next day or two, by noting what weather changes took place under similar conditions before. In the chapter on forecasts for some days in advance, Van Bebber defines five common and easily recognized weather types, dependent upon the distribution of atmospheric pressure over Europe. The weather conditions which distinguish these five types may last for various lengths of time, according to circumstances, but they may often be counted on for three days and a half. When, therefore, one of these types is recognized as occurring, a fairly reliable forecast for three days ahead can frequently be made.

THE CLIMATE OF CUBA.

Bulletin No. 22 of the Weather Bureau, entitled *Climate of Cuba; also a Note on the Weather of Manila*, by W. F. R. Phillips, has evidently, as is stated in the pamphlet, 'been somewhat hastily prepared.' The Havana Observatory has given us most of what is definitely known about Cuban meteorology, in its series of annual volumes of observations. Apart from these, there are only fragmentary data. In the present bulletin reference is made to meteorological observations at Key West, Nassau, Port au Prince, San Juan, Porto Rico, and other neighboring places, in order to throw further light on the climatic conditions of Cuba. At Havana the mean annual temperature is 77° F., in round numbers. July has a mean of 82.4°; January has 70.3°. Santiago apparently has a higher mean annual temperature, viz., about 80°. From very fragmentary, and probably also rather unreliable, records made at Ubajay and the San Fernando mines, in the interior, the mean annual temperature appears to be considerably lower there than on the coast. The relative humidity is fairly constant at Havana, the average being 75%. The mean annual rainfall at Havana is 51.73 inches (based on records for 30 years). The rainy season begins late in May or early in June, and ends in October. 68% of the annual rainfall comes during these months, but in 30 years it has happened five times that the rainfall in the so-called dry season has equalled or exceeded that of the rainy season. The northeast trades are the prevailing winds, but these are occasionally interfered with by cyclonic winds. In winter, *northers* are felt along the northern coast of Cuba, these being due to the passage of cyclonic centers over the southern portion of the United States.

A few paragraphs at the end of the report, concerning the *Weather of Manila*, were compiled by Professor H. A. Hazen. The data relate to the observations made at the Manila Observatory. The mean annual temperature at Manila is 80° F. May, the hottest month, has 84°, and December and January, the coldest months, have 77°. September has 85% of relative humidity, and April, 70%. The mean annual rainfall is 75.43 inches, of which 50.74 inches fall in June–October. It is to be regretted that this bulletin was not made more complete, as the information it gives, especially concerning Manila, is very fragmentary indeed.

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CURRENT NOTES ON ANTHROPOLOGY.

THE BUILDING SACRIFICE.

On all continents and in all ages when an important building is commenced or finished some kind of celebration takes place. Very generally it used to be a sacrifice, human, or of some lower animal. This