

a compact epitome of the physiography of the lands, in which the German equivalents for a number of English terms may be found. The cycle of denudation (Umbildungszyklus) opens with initial forms (Urformen) produced in the large way by deformation (Grossformen, Strukturförmern), such as masses of vertical movement (Schollenländer) with raised blocks and rift valleys (Horste, Graben), or folded zones (Stauungszone) with arches and troughs (Rücken, Thalungen). Destructive agencies carve the details (Kleinformen, Skulpturförmern) of consequent and subsequent features (Folgeformen, Unterfolgeformen) such as are seen in regions of young and mature valleys (jugendliche, ausgereifte Thallandschaften). The diversion (Ablenkung) of one stream by another causes a migration of divides (Wanderung der Wasserscheiden) and results in an adjustment (Anpassung) of streams to structures; initial, consequent, and subsequent divides (Ur-, Folge-, Unterfolgescheiden) may therefore be recognized. As the valleys widen and consume the hills, old age (Alter der Landschaften) is reached, ending in a peneplain (Rumpflandschaft). It is possible to combine cycles of different stages (Stadien), the sequential forms (Skulpturförmern) of the first cycle having served as the initial forms (Urformen) of the next. Some of Penck's terms, such as Schichtstufen, Schichtkammlandschaft, Durchbruchthal, have no simple equivalents in English.

LAKES OF THE BÖHMERWALD.

EIGHT small lakes occupy corrie-basins in the Böhmerwald. Their physical features are described and their origin is discussed by P. Wagner (Die Seen des Böhmerwaldes, Wiss. Veröffentlichungen, -Verein f. Erdkunde, Leipzig, iv., 1899, 1-90, maps, sections and views). After a general consideration of the various theories as to the origin of corries (Karen, Cirques, Botner) through erosion by water, obstruction by rockfalls, and excavation by névé and ice, the author concludes that the best developed corries, with background of cliffs and rounded basin of clean-scoured rock, are valleys of preglacial erosion modified by snow and ice action during the glacial period.

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CURRENT NOTES ON METEOROLOGY.

DEATH OF MR. G. J. SYMONS.

MR. GEORGE JAMES SYMONS, who died in London on March 10th, was well known throughout the meteorological world as the founder and head of the British Rainfall Service. In 1857 he started an organization for observing and recording thunderstorms, and soon afterwards began his life work on British Rainfall, which he continued till his death. The observers co-operating in this undertaking now number between 3000 and 4000, and the results of the observations have been published annually in successive volumes, bearing the title *British Rainfall*. The first volume contained the records for the year 1860, and the fortieth is shortly to be issued. Mr. Symons occupied a unique position, that of a private individual in charge of a great meteorological service, which he himself built up and administered. In 1866 Mr. Symons began the publication of his *Monthly Meteorological Magazine*, to which reference has from time to time been made in these NOTES. His name is further well known in connection with the meteorological section of the Royal Society's Report on the Krakatoa eruption, and with his valuable contributions to meteorological bibliography. He rendered important assistance in the preparation of the *Bibliography of Meteorology*, published by the U. S. Signal Service. Mr. Symons was a Fellow of the Royal Society, a member of the General Committee of the British Association, President of the Royal Meteorological Society, and for 27 years the Honorary Secretary of that Society. He was created a Chevalier of the Legion d'Honneur in 1891, and was selected by the Prince of Wales to receive the Albert Medal of the Society of Arts for 1897, "for services he rendered to the United Kingdom by affording to engineers engaged in the water supply and sewerage of towns a trustworthy basis for their work by establishing and carrying on during nearly 40 years systematic observations (now at over 3000 stations) of the rainfall of the British Isles, and by recording, tabulating, and graphically indicating the results of these observations in the annual volumes published by himself." Meteorology can ill afford to lose so unselfish a worker as Mr. George J. Symons.

THE MISTRAL.

THE *mistral* is well known as a strong cold wind which is common in the region about Marseilles, in southern France. It occurs when there is a barometric gradient to the south from the plateau of Central France, the cold air flowing quickly down the gradient and producing what the Germans have well named a *Fall-wind*. In the districts which are subject to frequent mistrals, the trees are bent to the southeast under the influence of the strong northwest wind, and the gardens are protected by means of high walls. The mistral is often so violent as to cause considerable damage, and sometimes even loss of life. Kassner, in *Das Wetter* for February, mentions the case of a mistral which occurred on January 20th, of this year. A carriage in which a lady was driving was blown into a canal, and the passenger and horse were drowned. One man was severely cut in the head by a tile which was blown from a roof, and another was thrown down by the wind and badly hurt. In view of the accident to the carriage above referred to, the mayor of Marseilles issued an order to the effect that hereafter no carriages are to be allowed to drive along the canals or the water-front while a mistral is blowing. Ordinary street traffic in Marseilles is always considerably interfered with by a violent or a long-continued mistral.

TYPHOONS OF THE PHILIPPINE ISLANDS.

THE Manila Observatory, under the direction of the Jesuit Fathers, has been keeping on with its excellent meteorological work throughout the troublous times of the past two years or more. The latest publication which has come to hand from the Observatory is a report by Father Doyle, entitled, *Tifones del Archipelago Filipino y Mares circunvecinos 1895 y 1896*. This is a valuable extension of the work already done by the Manila Observatory in connection with the typhoons, or *baguios*, of the Philippine region, and is a fitting supplement to Father Algué's report, *Baguios ó Ciclones Filipinos*, dated 1897. The present report gives a detailed account of the different typhoons, with tabulated meteorological observations relating to them. The tracks are plotted on a series of eight maps, and the fluctuations in atmospheric

pressure noted during the passage of three special typhoons are represented graphically.

CLIMATE AND MILITARY OPERATIONS.

The Influence of Climate on Military Operations is the title of a chapter in a recent work on *Outlines of Military Geography*, by T. M. Maguire (Cambridge, Eng., 1899, Cambridge Geographical Series). Dwellers on plains are compared with dwellers in mountainous regions; the severity of the seasons is noted in connection with Napoleon's Russian expedition and other military campaigns, and the subject of disease among troops is also touched upon.

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PATENTS AND THE INDUSTRIES.

THE recently published report of the U. S. Commissioner of Patents is a reminder of the facts that this system of protection of the inventor and of assurance to him of the product of his brain, a system to which those familiar with the subject attribute a large share of our unexampled progress in the arts and industries, has, of late years, received far less consideration than formerly and that it has not been cared for as it should be. It is the most remarkable stimulant to invention that the world has yet seen, and to it the country owes more than can be either estimated or compensated. Yet apparently neither the committees to which its interests are entrusted, nor the Congress itself gives much consideration to its needs or its deserts. Nearly 50,000 applications for patents on new inventions have been recorded in a single year. The receipts of the office were last year far above its expenditures—\$1,325,457 and \$1,211,783—and this has been the fact in every year of its century of existence, with the exception of but eight. In 1883, the surplus for the year amounted to about a half million dollars. The total balance of the Patent Office to-day amounts to \$5,086,649; but Congress does not even permit this earned capital to be appropriated to the needs of the Patent Office. It has a wealth of resources and is annually adding to them; yet it is permitted to need additions to its staff of examiners, to suffer for lack of additions to its library, which should be the