

WORK AND PROGRESS OF THE IMPERIAL  
GEOLOGICAL INSTITUTE OF VIENNA<sup>1</sup>

I. *THE Staff* has its full complement. M. D. Stur has been appointed sub-director, Dr. O. Lenz has returned from Africa with much information on the West Coast. M. Pillide, volunteer since 1875, has been appointed official geologist in Roumania. Two volunteers have joined, and there are four students in the museum and laboratory.

II. *The Building* has been considerably altered and enlarged, giving more space for laboratory, library, and museum.

III. *The Survey Operations* have been directed to (1) *the Special Map of the Empire*. Section 1. MM. Stache and Teller surveying the Central Alps south and east from the Cividale massif, the Oetzthal massif, &c. 2. MM. von Mojsisovics, Vacek, and Bittner—the Cima d'Asta, Sette Comuni, and eastward to the Venetian plain, the Tertiaries of the Vicentin, and down to the valley of the Adige. 3. MM. Paul, Tietze, and Lenz, East Galicia and part of N.E. Hungary.

(2). *Local Surveys, &c.*, D. Stur—Review of Sternberg's and Corda's collections of Carboniferous Plants in the Prague Museum; Coal-bed of Upper Silesia; Fossil Plants of Lunz in Upper Austria. Stache—Paleozoic Schists of the Semmering on the Styrio-Austrian frontier. Von Mojsisovics—Trias in Upper Austria and Carinthia. Wolf—Railway Line in Upper Austria. Paul and Fr. Ritter von Hauer—Coal-beds of Aspang and Kladno. Bittner—Geological Map of the Archduke Leopold's Estates South of Vienna.

(3). *With Government Aid*, R. Hoernes—Devonian Strata near Gratz, Styria. Koch—Rhaeticon and Selvetra group.

(4). *The Bohemian Commission*.—Krejci and Helmhacker—The Silurians of Central Bohemia. Laube—The Erzgebirg between Bohemia and Saxony. Fritsch—Paleozoic Saurians and Crustacea of Beraun. Nowak—Cypris-shales with Insects. Boritzky—Porphyries.

5. *Hungarian Geological Survey*.—Banat and South and West Hungary, surveyed by MM. Hofmann, Roth, Matiasovics, Boeckh, and Hantken.

IV. *Rearrangement of and additions to, the Museum*. Forty-one donors. Above 1,000 specimens, presented by Fr. Karrer, illustrative of the geology and fossils of the region traversed by the Francis-Joseph Aqueduct from the slopes of the Schneeberg to Vienna.

V. *Library*.—1. *Books*: Increase of 270 works in 281 volumes or parts; Periodicals, 422 volumes. Total at the close of 1877, 8,346 work in 22,496 volumes or parts; 766 Periodicals and Transactions in 13,261 volumes or parts. Various new Exchanges. 2. *Maps*: Arrangement completed. Total at the close of 1877, 933 in 3,825 sheets, besides the original maps by the Institute, and the special general maps of the Austro-Hungarian Empire reduced from them.

VI. *Laboratory*.—Newly established in a fresh locality. Enlargement of collection of artificial crystals, by Karl Ritter von Hauer. Analysis of eruptive rocks of the Ortler mountain-group, by M. John. Analyses of fossil fuel, ores, building-materials, &c.

VII. *Publications*.—1. The Transactions, vol. vii. part IV., and vols. viii. and ix., with fifty-four maps, sections, and plates, comprising Vacek's paper on the Mastodons of Austria; F. Karrer's Geology of the Francis-Joseph Aqueduct; and Stur's description of the Culm-flora. 2. The Annals: Ten contributors. 3. The Mineralogical Communications; Twenty-two contributors. These papers will for the future be published by themselves. 4. The Proceedings: Twenty-six contributors. 5. Other publications: MM. von Hauer and Neumayr's Guide for

the Meeting of the German Geologists; M. Stache's Geological Map of the Maritime region of Austria; Fr. von Hauer's "Geology," second edition.

METEOROLOGICAL NOTES

DR. OTTO KRÜMMEL publishes a paper in the current number of the journal of the *Gesellschaft für Erdkunde* of Berlin, on the distribution of the rainfall of Europe, illustrated by a well-executed map of seven colours, which show the regions where the annual rainfall does not exceed 9.8 inches (25 ctm.), is from 9.8 to 15.7 inches, from 15.7 to 21.7 inches, &c., the deepest tint covering all those regions where the rainfall exceeds 39.4 inches (100 ctm.). The map exhibits in a striking manner the small rainfall in the east and the heavy rainfall in the west; the markedly reduced rainfall of such mountain-sheltered plains as those which surround Paris, Clermont, Mannheim, Prague, Pressburg, and the great plain of Hungary; the large rainfall of the slopes of the Caucasus, which stands out in strong contrast with that of the arid regions all round; and the exceptional rainfall of Spain, which presents on the map a picturesque patchwork of all the seven colours representative of the wettest down to the driest regions portrayed on the map. The most important feature, however, is the partition of Europe into two divisions, by a wavy line lying about the forty-third degree of latitude, the southern division being characterised by a rainless or all but rainless summer, and the northern by rain all the year round, where an absolutely rainless month is of rare occurrence. Slight exception may be taken to the rainfall set down for Iceland, Holland, and portions of the east of Scotland and west of Norway, as being a little too large, but on the whole the map is an admirable piece of work.

DR. HORNSTEIN, of Prague Observatory, has discussed the observations of the wind made there from 1849 with a Krell's anemometer, and the results, which have been communicated to the Vienna Academy, disclose periodicities of velocity and direction generally accordant with Wolf's relative numbers of the sun-spots and with the well-known secular variation of the aurora. The mean annual velocity increases from the period of minimum to that of maximum sun-spots, and thence decreases with the diminution of the sun-spots to the minimum; and from the period of maximum to that of minimum sun-spots, the mean annual direction of the wind changes from a westward to a more southerly direction, while the change is in the opposite direction from the minimum to the maximum sun-spot period.

MR. BLANFORD, the Government Meteorologist for India, published quite recently a forecast of the weather of the monsoon season now set in. Reasoning from the unusually persistent high pressure then prevailing over Northern India, the singular absence of abnormal variations of pressure over the same region, and the heavy rainfall during the cold weather, he thinks it probable that the monsoon current will be below its average strength, that the rainfall will be more equally distributed than last year, and that the monsoon will commence later than usual in Upper India.

ON the occasion of the commemoration of the 400th anniversary of the founding of Upsal University in September last, the Swedish Government published an Atlas of fifty-one maps which had been prepared by Prof. Hildebrandsson to show the direction of the upper currents of the atmosphere during 1875 and 1876. About the same time the Meteorological Society (London) published thirty weather maps for March, 1876, prepared by Mr. Clement Ley, in illustration also of the upper currents. As regards the broad results arrived at, both authors are substantially agreed, the results being that while the surface winds blow inwards upon cyclonic areas

<sup>1</sup> From Fr. Ritter von Hauer's Annual Report, January 8, 1878.