

## ALPINE WINTER

*Alpine Winter in its Medical Aspects: with Notes on Davos Platz, Wiesen, St. Moritz, and the Maloia.* By A. Tucker Wise, M.D., &c. Third Edition. (London: Churchill, 1886.)

THIS work possesses a fourfold interest. The meteorologist will find in it an account of the Swiss Alpine climate in winter, with full and careful records of the author's observations, which occupy one-fourth of the whole volume. The sanitary engineer may here obtain a clear account of the first successful attempt that has been made to warm and ventilate a large building on strictly scientific principles during the months when the temperature of the air frequently falls below zero. To the physician the book will serve as a guide in advising his patients on the subject of the Alpine health-resorts, in the determination of suitable cases, the peculiar advantages of each place, the duration of stay, and the time to leave—giving, as it does, the physiological effect of each of the peculiar elements of a winter climate at high elevations. Lastly, all those who, either from necessity or from choice, have arranged to pass part of the winter in the Engadine or at Davos, can learn from these pages how to plan and prepare for their outfit and journey, the best routes by which to travel, how to avail themselves of the advantages of the winter health-resorts of these parts, and how to minimise the drawbacks or dangers connected with this system of treatment.

The principal places which Dr. Tucker Wise describes are Davos-am-Platz, Wiesen (a warm bright hamlet six miles lower down the stream), St. Moritz (now almost as renowned for the winter effect of its atmosphere in consumption as of its waters in debility), and, lastly, the Maloia. As the author has now taken up his residence at the Maloia *Kursaal*, it is only natural that he should devote a considerable part of his book to it. It is this hotel which presents, as we have said, the earliest and one of the greatest efforts in the direction of artificial heating and ventilation in the Alps. Nature and art meet at the Maloia in the most interesting combinations. Without the *Kursaal* there is the brilliant, dry, calm, absolutely pure atmosphere of the Upper Engadine, "laden with balsamic vapour from the pines"; within its walls there is every appliance which science can suggest to preserve the purity and maintain the proper temperature of the respired air, constantly liable as it is to dangerous contamination by the residents, who to the number of several hundreds can be accommodated in its apartments. The elaborate system adopted for warming and circulating the admitted air is fully explained in this work with the aid of a series of large diagrams. The air, drawn from the outside on the basement, is made to pass over a series of *batteries*, consisting of steam-pipes enclosed in a case, by means of which it is raised to a temperature of 50° C., whilst it is at the same time mixed with a due proportion of watery vapour. The ascending power of the heated air raises it to the rooms above, which it enters at a rate sufficient to change the atmosphere every two or three hours. To extract the used-up air there are two tubes of exit, which finally communicate with an iron casing around the main flue of the furnaces, which thus acts as the extraction-shaft. Not only is

every room thus warmed and ventilated, but the atmosphere of any particular chamber can be medicated at will by placing an antiseptic agent in the air-tube supplying it. A plan has also been adopted in the *Kursaal* of introducing ozone into the building by means of the electricity used for lighting, the motor force for the machines being a fall on the River Inn. "The ozoniser draws off its electricity from the main current of the incandescent lights. After passing through an inductorium, an induced current of about 200,000 volts is obtained, and distributed over the surface of numerous glass plates coated with tin-foil. The method employed is an imitation of the natural process which takes place in the atmosphere,—the production of ozonised air by electricity in a state of high tension. Air is forced between the glass plates and through the ozoniser by means of a 'blower,' driven by a water motor."

To those for whom any of the subjects which we have selected for comment may possess practical interest we would say: "Do not be satisfied with reading Dr. Tucker Wise's book; go and see for yourselves on the spot." There is no more enjoyable or more successful holiday in our dark and dreary winter for the jaded dweller in large English towns than a few weeks spent in the sparkling air of St. Moritz or the Maloia. B.

## OUR BOOK SHELF

*Magnetic Horizontal Intensity in Northern Siberia.* By A. C. von Tillo. From the *Repertorium für Meteorologie*, Band x., No. 7. (St. Petersburg, 1886.)

THE maps of lines of equal magnetic horizontal intensity which have been published during recent years have been more or less defective in that part of Siberia lying north of the 60th parallel of latitude, partly arising from want of fresh observations, but more directly from insufficiency of data respecting the secular change of that element.

The present paper, with its accompanying map, is intended to remedy these defects, as far as is at present possible, for the epoch 1880. For this purpose, every observation since 1828, when Hansteen and Due started on their well-known magnetic survey, has been collected in a Table A, and the best values obtainable of the secular change in a Table B. As represented in the latter table, the secular change is of so moderate an amount, that every observation during the interval 1828-84 may, without large error, be considered available for combination in one map for 1880.

This has been accordingly done, and a map drawn, showing lines of equal horizontal intensity expressed in Gaussian units, the scale being in conformity with that of the maps published in the *Annalen der Hydrographie*, Heft vii., July 1880.

Amongst the most important recent observations recorded in Table A are those of F. Müller in the *Olenek Expedition* of 1873, and of the voyage of the *Vega* in 1878-80, and as a whole the paper and map may be taken as a valuable contribution to terrestrial magnetism. The secular change, however, still remains a quantity requiring much more accurate results than those hitherto obtained for Siberia, and such as are derived from prolonged observation in one spot, it being now well known that a change of position of a few feet often allows an element of error to enter, caused by local magnetic disturbance.

*The Ordnance Survey of the United Kingdom.* By Lieut.-Colonel T. Pilkington White, R.E. (London and Edinburgh: Blackwood and Sons, 1886.)

THIS is a slight sketch, most of which has already appeared in *Blackwood*. Carefully as the author has kept himself