

menced by General de Nansouty and his coadjutors in 1873, at the foot of the Pic, about 2300 metres above the sea, and were continued under great hardships, and at considerable personal expense for about eight years. The present station was established in 1880, by public and private subscriptions. The accompanying illustration gives a general view of the station as it now exists. On the left the thermometer screen may be distinguished near the erection on which the anemometer and actinometer are placed; at the other end of the terrace is the equatorial building, and the apparatus for celestial photography. The magnetic instruments are placed in vaults underneath the terrace. The meteorological observations are regularly published in the annals of the Central Meteorological Office; useful predictions have been given to the inhabitants of the plains of impending thunderstorms, and of probable floods owing to the sudden melting of the snow on the mountains. Amongst the miscellaneous observations undertaken under the able direction of M. Marchand, we may specially mention those relating to the zodiacal light, to solar phenomena, and the

persons have attended the various local lectures provided, while 1000 students entered for the courses offered by agricultural colleges. The expenditure of the counties is given in detail, and presents some curious anomalies; thus the London County Council assigned to agricultural education 742*l.*, while the authorities of one of the most fertile divisions of Lincolnshire, in which agriculture is practically the only industry, voted 65*l.* for the purpose! Again, East Sussex, with a total income from the "Residue Grant" of 7773*l.*, spent 6116*l.* in grants to agricultural colleges or schools, while West Sussex, with an income of 4503*l.*, gave nothing for collegiate instruction, and was satisfied with an expenditure of 275*l.* upon horticulture and poultry keeping. Conditions vary from county to county, but differences in the needs of the agriculturist do not explain the widely different educational policy of the local authorities. Under the new committees, it is to be hoped that the unsystematic and spasmodic efforts that have been too common in the past may disappear, and though it is probable that in the

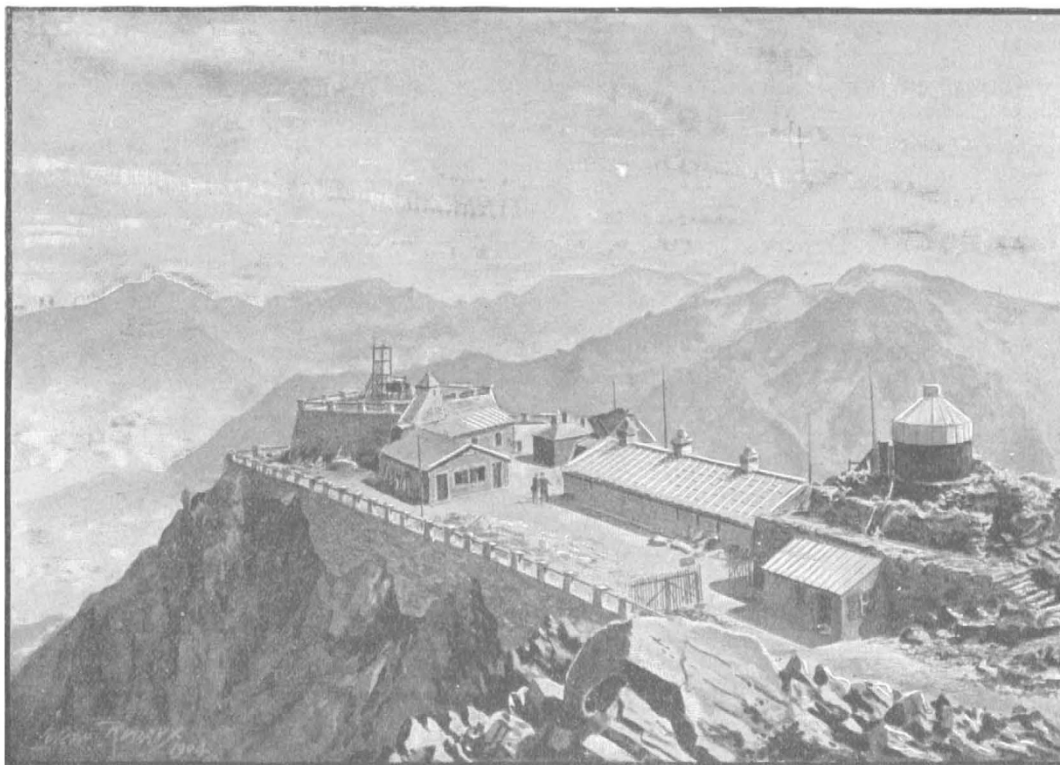


FIG. 1.—General View of the Pic du Midi Observatory in 1904.

connection of the latter with magnetic disturbances. His observations in this direction have shown that whenever a terrestrial magnetic disturbance occurs, spots or faculæ exist on the central meridian of the sun. Important spectroscopic results have also been obtained respecting the atmospheres of Venus and Mars.

AGRICULTURAL NOTES.

AN important new feature of the annual report on the distribution of grants for agricultural education and research is a return giving the character of the instruction in agriculture provided by the county councils of England and Wales. The return shows that most counties are now spending considerable sums on agricultural education—altogether 88,893*l.* in 1902-3, and to this sum 9200*l.* was added by the Board of Agriculture in the form of grants to collegiate centres. It is estimated that some 22,000

immediate future less money will be spent on agricultural education, it is likely to be expended to greater advantage. The Board of Agriculture's report should be studied by all members of county education committees who are interested in agricultural education.

A piece of work which has just been completed in the library of the U.S. Department of Agriculture has greatly enhanced the value of the leading Continental agricultural journals for English-speaking students. Complete card catalogues of "Annales de la Science agronomique," "Landwirthschaftliche Jahrbücher," and "Die landwirthschaftlichen Versuchs-stationen" have been prepared. Each index card gives author's name, title of article, and a brief outline of the scope of the article. The catalogues may be purchased in two series, either "author entry" sets, permitting papers to be indexed under the authors' names, or "complete" sets, furnishing two or more cards for each paper, which may then be indexed under the author's name, and also under the subject or subjects to

which the article relates. The cost of the three sets of catalogues in the latter and more useful form is about 12l. The sets now issued bring the indexing down to 1903, but the work will be continued, and supplementary sets will be printed from time to time. Students who do not desire references to all branches of agricultural science may obtain sets of cards dealing with special subjects, such as soils, plant diseases, or forestry. Particulars of the eighteen subject-groups under which the cards are classified are given in *Bulletin* No. 9, issued by the Catalogue Division of the Library of Congress, Washington, D.C.

In the fourth report on the Woburn fruit farm, the Duke of Bedford and Mr. Spencer Pickering, F.R.S., discuss the results of several years' experiments in the manuring of fruit crops. In an introduction the soil of the fruit station is described, and chemical and mechanical analyses are given; the report then describes experiments on strawberries, gooseberries, currants, raspberries, and apples. For various reasons the experiments on currants and raspberries were unsatisfactory, but trustworthy data were obtained in the work on the other crops. It was found that 12 tons of farmyard manure per acre increased the strawberry crop by 12 per cent. to 15 per cent., and that the size and quality of the fruit were greatly improved. A mixed artificial manure supplying about the same quantities of nitrogen, phosphoric acid, potash and magnesia as the dung similarly increased the yield, but did not improve the quality. Farmyard manure much increased the gooseberry crop, but the artificial mixture failed to do so, and it is explained that the increase in the former case was probably due to the greater quantity of moisture retained by the dunged soil. Nitrate of soda applied in summer was found to benefit apples in certain seasons, but with this exception no kind of manure had any marked effect on the apple crop.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

BIRMINGHAM.—Mr. Chamberlain, the Chancellor of the University, presided at the annual meeting of the Court of Governors held on February 6. Speaking after the adoption of the annual report, Mr. Chamberlain said that when the governors of Mason College met some five or six years ago and came to the decision that the time had come to give Birmingham its own university, it was thought that the least sum of money which would justify them in applying for a charter was 100,000l. But very shortly afterwards they found that there was a great opportunity, not only for themselves, but for other great provincial cities, to create a series of universities which in the first place would bring home to all the population the advantages of the highest education, and in the second place, would specialise this highest education with some more definite idea of its application to science than hitherto had been found to be possible. The moment they decided on a departure of that kind they found that it meant something quite different from what they had previously supposed. New buildings had to be specially devised, a very large and expensive equipment had to be provided, and new chairs had to be created; altogether a completely new ideal had to be developed. And then they put their demand—a demand which, indeed, they did not strictly limit themselves to, but they thought it would probably be sufficient for the present generation—they put their demand at the expenditure of one million of money. They had received at once nearly half that sum, largely from Birmingham. And he might say in passing that the liberality of the local contribution was a ground for the claim which they made for some further State support. "It is something," he said, "that we have found that the Government are becoming alive to our needs and to our deserts, and that they have been able to double the sum previously given for the university education. But we may bear in mind at the same time that the present Chancellor of the Exchequer has promised to double it again in his next Budget, and, therefore, I anticipate that from that source we shall receive a very considerable addition. I do not at all accept it as in any way a satisfaction of our demands, because it is my conviction that public opinion will soon insist upon larger sums being

devoted to this purpose. When I think that we are spending 13 millions a year at least on primary education I say the sum now given for the purpose of the highest education, the most profitable of all the investments we can make in that direction, is altogether inadequate."

CAMBRIDGE.—The voting on the report of the Studies and Examinations Syndicate will take place on Friday, March 3, and on Saturday, March 4, on both days from 1-3 p.m. and from 5-7 p.m. No votes will be taken after 7 p.m. on Saturday, March 3.

In view of the discussion on the report the syndicate has issued the report in an amended form. The chief changes include as alternatives in the papers in classical languages (1) passages for translation from a selected book or books; (2) unprepared passages for translation, a vocabulary of unusual words being supplied, also the abolition of distinct grammar papers, although questions on syntax and accidence will be set in connection with the translation papers; further, one of the Synoptic Gospels is Greek, is now proposed as an alternative to one of the Synoptic Gospels, together with the Acts of the Apostles in English, and logic is included amongst the optional subjects in part iii. These proposals are embodied by the Council in five graces. It is on the second of these, which deals with the question of compulsory Greek, that attention will be centred.

LONDON.—Sir Michael Foster has consented to offer himself for re-election to the next Parliament as member for the University of London. He seeks re-election as a representative of science and higher education; if re-elected he will take his seat as a member of the Liberal Party. A committee, with Sir Thomas Barlow as chairman, has been formed to promote his election. This committee comprises graduates belonging to different political parties who are supporting Sir M. Foster on the ground of his many public services and in the belief that his special knowledge will continue to prove of great value to the House of Commons.

OXFORD.—Mr. George Longstaff, New College, has presented 50l. to the Hope Department of Zoology, and has offered to provide an extra assistant in the department for the years 1905 and 1906.

A SHEFFIELD gentleman, who does not wish his identity to be disclosed, has, says the *Sheffield Telegraph*, intimated in connection with the Sheffield University movement that he is prepared to subscribe 10,000l. towards the endowment fund, provided four other sums of 10,000l. are contributed. As an alternative, he is willing to give 5,000l. provided nine similar donations are promised. Under either condition a sum of 50,000l. would be raised, and, roughly, this is the amount still required to complete the fund.

At a public meeting held under the auspices of the University of Leeds on February 6th, Mr. Alfred Mosely, C.M.G., gave an address on "Some Lessons learned by the recent Mosely Commission of Educationists to the United States." In the course of his remarks he said: Much remains in England to be done so that she may be brought into line with the United States and Germany in the matter of education. In America the people realise that if the nation is to be made and saved it must be through the medium of education. The time has come for us to reconsider our position, and above all to realise that the Board schools and the primary schools are but the prelude to secondary education, which in the United States has made such satisfactory strides—as it has also in Germany. The great difference in the education of the United States and that in our own country is the appreciation there of everybody, from the highest to the lowest, of the value of education. The Government has realised its obligations, and private citizens pour out their money like water. The University at Chicago, for instance, has been built up through the liberality of one man, who has given millions of pounds sterling. Why is there not the same spirit in England?

THE current number of the *Quarterly Review* contains an article entitled "The Direction and Method of Education." The writer passes in review many of the official publications of the English Board of Education and the