of the Botanical Register, 1823, under the name *Ocymum febrifugum*, or the "Sierra Leone Fever Plant." This work mentions that the plant is "in request at Sierra Leone for medicinal purposes," and describes the species as an "*under shrub* 3 feet high," "having in a high degree the smell of common balm."

The leaves of the plant are highly glandular, and in India an allied species, *O. Basilicum*, Linn., the "common sweet basil," produces a "yellowish green volatile oil lighter than water, which, on being kept, solidifies into a crystalline camphor, isomeric with turpentine camphor" (*Gmelin's Handbook*, xiv., 359).[1] The seeds of this species are widely used in the

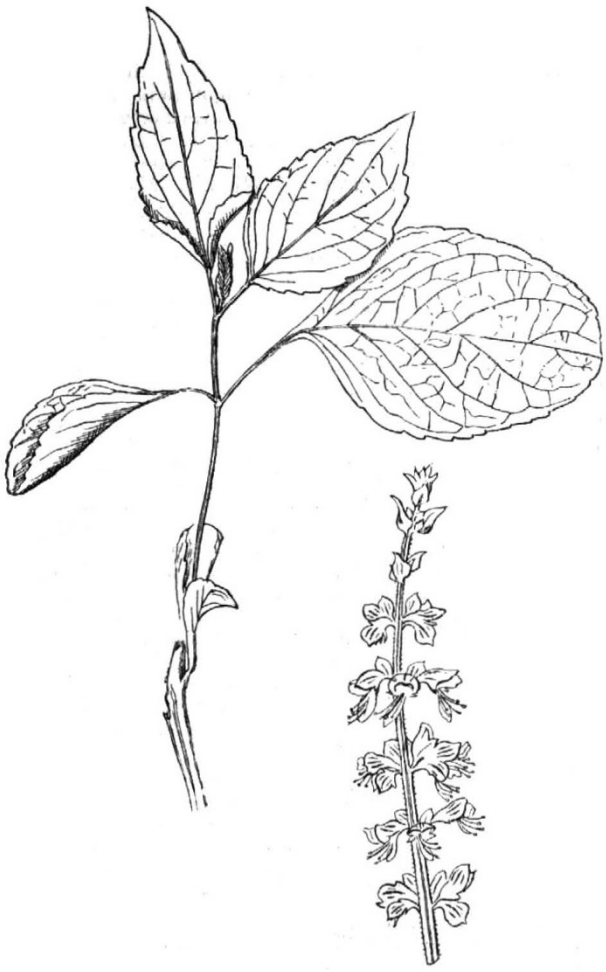

FIG. 1.—*Ocymum viride*, Willd. Some leaves drawn from a dried specimen brought back by Major Burdon. Below is a raceme of the same plant taken from the "Botanical Register," vol. ix. Both reduced.

east as a medicine, and their properties "are said to be demulcent, stimulant, diuretic and diaphoretic." "The juice of the leaves mixed with ginger and black pepper is given in the cold stages of intermittent fever." The leaves, like those of thyme, are used as a seasoning in cooking. Another Indian species, *O. sanctum*, Linn., the "sacred basil," is the most sacred plant in the Hindu religion, and is consequently widely cultivated.

In "Notes on the Medicinal Plants of Liberia,"[2] Mr. E. M. Holmes records that when chewed or rubbed, the leaves of *O. viride* give off a strong odour of lemon thyme, and mentions that Dr. Roberts, of Liberia, entirely substituted the use of the plant for that of quinine in cases of fever of all kinds, giving it in the form of an infusion.

There is thus a good deal of evidence that *O. viride* is a plant of considerable curative value, especially in cases of fever, but the question that interests a large number of people in West Africa is whether it is equally efficacious as a preventative. Does it really repel the mosquito which acts as the intermediary in conveying the malarial hæmatozoon from man to man? Further experiment on this point is needed, but there is at least some indication that in this easily cultivated plant man has another weapon with which to fight malaria.

Christ's College, Cambridge. A. E. SHIPLEY.

[1] Watts's "Dictionary of the Products of India," v. 1891, p. 441.
[2] *The Pharmaceutical Journal*, third series, viii. 1877–78.

TRANSATLANTIC WIRELESS TELEGRAPHY.

THE announcement of the successful inauguration of the Transatlantic wireless telegraphic system which we were able to make last week must have come as welcome news to all, but hardly as a surprise to those who have followed with any closeness Mr. Marconi's persevering experiments. Those who have done so and who have seen how, in almost every instance, Mr. Marconi has achieved all that he has said he would achieve can hardly have doubted that in this case also he would be successful. And when once it had been demonstrated that Hertz waves were capable of bridging the enormous distance from the Old World to the New, it was evidently only a matter of time to instal suitable stations on both sides of the Atlantic and to put them in operation. Nevertheless, the greatest interest attaches to the transmission of the first messages; one cannot help feeling that it is an historic occasion, not only marking an era in the development of wireless telegraphy, but also forging another link between this country and her colonies, and adding yet one more to the many benefits helping forward civilisation which science has conferred on mankind.

As yet, of course, not much has been done; a few congratulatory telegrams have passed from one side of the Atlantic to the other, and doubtless there will have to be much more experiment and work before a commercially useful system of communication is established. But for this we can wait in patience and confidence. It is easy to see that, though the possibilities are many and great, the difficulties also are formidable and numerous. In the first place, before the system can be commercially important, it is clear that the public must be made to feel confident that it is absolutely trustworthy; any uncertainty in this respect would be fatal to a system which has to make its way against the competition of existing methods. Again, the system is, for the present at any rate, limited in its carrying capacity, since the speed of signalling obtainable is not very great, and from what can be gathered it seems unlikely that multiplexing to any great extent, or even at all, can be regarded as a possibility of the near future. From another point of view also difficulties present themselves, for we have yet to learn what effect will be produced on existing wireless installations by a constant stream of very powerful Hertz waves sent out on either side of the Atlantic. If the Transatlantic signalling seriously interferes with the less pretentious applications of wireless telegraphy, there can be little question as to which it is more desirable to retain. But all these problems we may safely leave for the present, for we know that they are in the hands of one who has shown himself fully competent to deal with them.

Whatever else may be said of his present achievement, all must agree that it is a great personal triumph for Mr. Marconi, and one that he has fully merited by his untiring

perseverance and endeavour in the face of difficulties, opposition and adverse criticism that would have daunted many. Great indeed as the advances in wireless telegraphy have been when regarded simply as advances in applied science, few things are more remarkable than the rapidity with which they have been made. It is less than ten years since the first experiments were made in the application of Hertz waves to signalling. Mr. Marconi himself began work a few years later—in 1896. In that year he was able to transmit signals over a distance of a mile or so, and ever since he has been steadily increasing the limit until, about one year ago, it was announced that the signal "S" had been transmitted from Cornwall to America. Many who were sceptical of this result at the time must have been convinced of its genuineness when a little later (last March) messages were transmitted to the *Philadelphia* up to a distance of 1551 miles from land and the signal "S" transmitted to a distance of 2099 miles. Following on this came the cruise of the *Carlo Alberto* during July, August and September last, when extremely successful results were obtained over great stretches of land and water. Finally, at the close of 1902, we have the inauguration of a complete Transatlantic system with transmission of messages in both directions. No one can consider this as other than a splendid record for six years' work.

Little need be said of the stations on either side of the Atlantic, since both have been already described and illustrated in NATURE (see vol. lxv. p. 416, and vol. lxvi. p. 485). It is to be hoped that before long we shall be able to record that both have been in continuous and successful commercial working without producing any ill effects on other installations. When this has been accomplished, the problem of syntony remains to be solved, and we wish Mr. Marconi the same complete success in dealing with this problem as has crowned his other efforts. MAURICE SOLOMON.

A SUB-TROPICAL SOLAR PHYSICS OBSERVATORY.

WE have received from a correspondent in America the following letter by Prof. S. P. Langley, secretary of the Smithsonian Institution, suggesting the establishment of a great solar observatory in or near the tropics. Referring to the practical value of such studies of the sun as are suggested by Prof. Langley, our correspondent remarks:—"It is an amazing thing that the enormous utility of recent work on the sun's connection with the conditions which bring famine or plenty to India, for instance, is lost sight of by almost all astronomers. Astronomers and astrophysicists, even, are apt to look at it in its purely scientific interest, as if it had none other than what it might share with the discovery of the motion of a nebula."

The letter sent by Prof. Langley to the Hon. Charles D. Walcott, secretary of the Carnegie Institution, is given in the report of the executive committee to the trustees of the Carnegie Institution, published November 26, 1902, and reads as follows:—

February 28, 1902.

DEAR MR. WALCOTT,—You were saying to me that you knew of some persons who might be desirous of aiding, through the Smithsonian Institution, some large object, and I was led to write you what is in substance the following letter:

I learn from yours of February 14 that you would like to call it to the attention of the executive committee of the Carnegie Institution, and, as I have written, I shall be very glad to have you do so, asking you to make it clear that it is in no way a request from the Smithsonian Institution, but a suggestion from me of a great object which Mr. Carnegie himself may care to take up.

I do so the more readily because, considering the Institution wholly apart from its own needs, it would be the glad means of indicating to those who wish some worthy aim for expenditure, some specific object, which may be undertaken if desired *in their own name* and through any worthy medium they prefer.

One of these is the determination of the heat the sun sends the earth and the causes of its probable variation. The progress of solar physics has been such in the last few years as to make it of interest to every inhabitant of the planet that this progress should be carried further, not only in scientific, but in economic, and in even humanitarian interests.

The establishment of a great observatory in the tropical or sub-tropical regions at a high altitude would advance our knowledge of the heavenly bodies in a degree more than could be done by all the physical observatories in the world united. To the founder of such an observatory there would be enduring fame, but it is an affair of a very great deal of money, possibly to be reckoned only in millions. The establishment and maintenance for eleven years of a distinctly solar observatory under these conditions would enable us to study the sun as it has never yet been studied, and through an entire solar cycle, for much less cost.

While this latter research, then, is to be pursued at less cost than the foundation of a great general observatory, it has a specific object of literally world-wide importance and interest.

The determination of the heat the sun sends the earth annually is the determination of that through which everything on the planet lives and moves, and almost unknown slight variations of this heat are the probable, if remote, cause of the changing character of the seasons and of the lack or plenty in the crops upon the earth as a whole.

It has seemed possible within the last few years that if we had this knowledge, the years of plenty and of famine could be forecasted as we now forecast a coming storm through the advices of the Weather Bureau. It is possible, I say, but I do not wish to say more than that it is possible.

I do not know any greater or more worthy object for the expenditure of 500,000 dollars than the settlement of this latter great question would be. It is, with our present knowledge, almost a question of money; but no Government is prepared to spend such a sum except for its own interest. This is for the interest of all the people in the whole world, and I entirely concur with the recommendation of its importance from the chief of the United States Weather Bureau, which I enclose. I should gladly see it undertaken, whoever does it.

Very truly yours,

S. P. LANGLEY.

The Honorable CHARLES D. WALCOTT.

In a further letter, sent on October 20 to Prof. G. E. Hale, who asked for details of the proposed scheme of work and equipment, Prof. Langley described the principal objects of inquiry of a distinctly solar observatory, the plan of observations, and apparatus and accessories required.

NOTES.

THE management of the Imperial Institute will from January 1 be vested in the Board of Trade, assisted by an advisory committee representing various Government Departments and the Indian and Colonial Governments. The Board of Trade has appointed Prof. Wyndham Dunstan, F.R.S. (now director of the scientific and technical department of the Institute), to be Director of the Imperial Institute. Prof. Dunstan will continue in charge of the scientific investigation of economic products, and will supervise any other branches of work carried on by the Board of Trade in the building at South Kensington, including the collections of products of the Empire so far as they will be under the control of the Board. These arrangements do not affect the parts of the collections and the information offices under the special charge of representatives of the India Office and of certain Colonial Governments.

IN consequence of the presentation of a memorial in favour o the admission of women to the fellowship of the Linnean Society, the council issued a circular in March last inviting an expression of opinion on the part of the whole body of fellows. The result has been that 301 fellows have pronounced in favour