

## OUR EXCHANGES.

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1. गायना—Oct. 1921. (The Tiluri Kripamayi H. E. School).
2. The Scottish Churches College Magazine (Sept, 1928.)
3. The Rajendra College Magazine (Sept. 1928, Faridpur)
4. Hare School Magazine (Autumn Number, 1928.)
5. The Krishnagar College Magazine (Sept. 1928.)
6. Patna College Magazine (Oct, 1928.)
7. The Teachers' Journal (Sept. 1928.)
8. The Ohand Bagh Chronicle (Oct. 1928.)
9. The Cotton College Magazine, Lucknow (Oct. 1928.)
10. The New Era (Oct. and Dec. 1928. Madras.)
11. The D. A. V. College Union Magazine, (Oct. and Nov. 1928) Lahore.
12. Chittagong College Magazine, (Oct. 1928.)
13. Ashutosh College Magazine (Puja Number).

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## SIR J. C. BOSE.

Thirty-five years ago an Indian professor was spending laborious hours in a scantily-equipped laboratory in the investigation of the behaviour of Hertzian waves. He had his own peculiar difficulties to contend with, but he was able to get over them, for in his work he had a mission to fulfil. His one aim was to remove the stigma, with which Orientals generally and Indians in particular were branded, of being temperamentally incapable of initiating and carrying on systematic scientific research. This was Sir Jagadish Chandra Bose, the renowned scientist who in after years startled the world by demolishing age-old theories about plant life and establishing new ones in their stead.

corroborated by some of the most brilliant and ingenious experiments ever devised. How he turned from physics to plant physiology is to-day a matter of common knowledge, and how far he has succeeded in realizing his ambition is proved by the annual pilgrimage of distinguished European *savants* to the Bose Institute at Calcutta.

In the realm of Physics, his name will be long remembered for his contribution towards the development of wireless. His work in connection with galena receivers and his success in firing weapons and explosives from a distance by means of wireless waves—of which he gave a public demonstration, received recognition as early as 1894. But it was a real stroke of inspiration for him to turn from Physics proper, to the investigation of physiological problems by physical methods. For, in this sphere he achieved a measure of success which falls to the lot of only a few scientists. Unsolved mysteries of plant-life were waiting, as it were, to melt away before his presence. The story of Sir J.C. Bose reads like a romance in the history of scientific achievements.

Among his many inventions may be mentioned the magnetic crescograph which can magnify infinitesimal movements a hundred million times; the resonant recorder which measures time-intervals as short as a thousandth part of a second; the electric probe, which has made it possible to localise the nervous strand in the plants' interior; the photo-synthetic recorder which automatically measures and records the amount of carbon assimilation of plants under sunlight on a moving drum. These instruments are highly sensitive and require extremely delicate handling. A fact about them that deserves more than a passing remark is that they have all been manufactured in India by Indian workmen, under the expert supervision of Sir J.C. Bose.

All this, however, has not been done in a day. Years of unremitting toil and intensive research backed up by the

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keenest introspection have yielded their reward. In his quest after truth he has had to encounter opposition and even enmity from interested quarters, for in science as in other spheres, superstition dies rather hard. His laurels have been well won and it will hardly be an exaggeration to say that the honours that have been showered on him were never better deserved. As Einstein has said, even if for any one of his many discoveries, he should have a statue erected in his honour at the capital of the League of Nations.

Sir J. C. Bose has received numerous congratulatory messages from distinguished men of all nations on the occasion of his 70th birthday. Not only scientists but intellectualists of all climes and denominations have joined in their tribute to the great seer who has brought light where previously there was none and has flung wide open the door to a new and varied field of investigation for the benefit of the future generation. He started work when there were but few men in India engaged in scientific research. The days are changed and now we find Indians taking up the pursuit of science in the spirit it should be taken up. Sir J. C. Bose may contemplate with satisfaction that his labours have at last borne fruit; the lone lamp that he kept burning has attracted others to his task. The magnitude of his success which is the outcome of a rare combination of imagination and inventive genius will even endure and inspire Indian scientists of the future to greater and greater effort.

M. M.