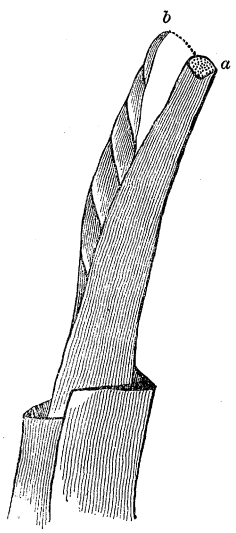
Expulsion of water from a growing leaf.

My attention was some time ago called to an interesting and remarkable fact in connection with the expulsion of water from the tip of a growing leaf. It is well known that drops of water are often found on the margins and apices of growing leaves. It is readily observable in corn and other grasses (see Sachs's text-book, p. 676); but the phenomenon to which I wish now to call attention is of another character. The circumstances were as follows: —

A lady had growing in her house a strong and thrifty Caladium with three or four large leaves. A new leaf being ready to expand alongside of an old one, this last was cut off at *a* in the figure. It was noticed soon afterward, at about half-past ten A.M., that from the apex of the new leaf (*b*) there was being shot out, for a distance of about an inch, a jet of water, falling in the shape of very fine spray on the cut surface of the other leaf. The jets were counted, and it was found that there was a regular *pulsation of about a hundred and eighty per minute;* that is to say, three jets of water were forced from the apex of the leaf every second. It was observed from time to time until five P.M., and but little cessation of the rate of motion was seen. At eight the next morning the pulsations were about a hundred and twenty per minute; and they gradually decreased, until, on the third day, drops of water would accumulate at the apex, and be expelled with some force at a rate of about ninety per minute.



It is to this regular pulsating movement of the water that I wish to call attention. I cannot find, in any of the books accessible to me, any account of any such motion in the water of plants. Sachs does not mention it; and, if any of your readers know of the mention of any such motion, I should like to know where it is to be found. We know that the exudation of water from cut surfaces, or newly-expanding leaves, is often caused by the taking-away of an evaporating surface (say, a large leaf) while the root is still absorbing a large amount of moisture from the soil (see Sachs's text-book, p. 689); but why this pulsating movement? There can be no doubt as to the accuracy of the observation, as it was seen by several persons besides the owner of the plant. Prof. J. W. Lloyd of this city has informed me that some years ago he made the same observation, but he has not been able to give me an exact statement as to what took place.

JOSEPH F. JAMES.

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[This interesting phenomenon has been described by Musset, who states that water was forced from the leaf-tips of Colocasia antiquorum, another plant of the Aroid family, with such force that the jet was three inches and three-quarters high (*Comptes rendus*, 1865, 683). Professor Pfeffer, to whom we are indebted for this reference, calls attention to a singular communication by Munting (1672), who describes the emission of a fine stream of water from the leaves of certain Aroideae, *resembling a fountain.*]

A scientific swindler.

A few weeks ago a man calling himself N. R. Taggart, and claiming to be a member of the Ohio geological survey, visited Philadelphia. He called on the principal scientific men of this city, and attended one of the regular meetings of the Academy of natural sciences. He seemed to have an extended acquaintance with scientific men all over the country, talked very glibly about fossils, and claimed to be preparing a report on the Productidae for the Ohio survey. He is about five feet eight inches in height, a hundred and sixty pounds in weight, heavy set, heavy featured, with light hair, and rather deep-set eyes, shabbily dressed, and wore an old gray overcoat. He had an adroit way of ingratiating himself into the confidence of his intended victims; and then, if he could not steal, he would, under some plausible pretext, borrow valuable books or specimens to take to his hotel, and forget to return them. His victims are to be found scattered all over the country. In New York he was E. D. Strong of Fort Scott, Kan., and claimed to be employed by the Kansas Pacific railway to collect statistics of coal production. In West Philadelphia he gave his address as E. Douglas, Columbus, O., member of the State survey. In Auburn, N.Y., he was a deaf-mute, under the name of E. D. Whitney, U. S. geologist, Denver, Col. There he obtained a large quantity of valuable books and fossils from the family of Professor Starr, in the absence of the owner. In Harrisburg, Chambersburg, Columbus, and Indianapolis he was a deaf-mute. He swindled the state geologist of Indiana out of over a hundred dollars' worth of scientific books. From the Cleveland historical society's rooms he obtained Indian relics of great value, and in Cincinnati, minerals and fossils which he converted into cash. He has been permitted access to several museums, public and private, from which he has succeeded in abstracting valuable specimens, and sold them. Any information in regard to the real name and residence of this man is much to be desired.

F. V. HAYDEN.

AN INTERNATIONAL SCIENTIFIC ASSOCIATION.

THE coming of the British association in August next to this continent to hold its meeting will result, it is hoped, in bringing the scientific representatives of two great nations twice together, — once at Montreal; and later, again, at Philadelphia. The interest felt in these two gatherings is very great, and rapidly increasing as the time approaches for their occurrence. It is realized that they will be very important and delightful. Both meetings will be international in character; and the pleasant anticipations formed in regard to them suggest the advisability of establishing some permanent organization which may insure