

lications which are issued at a date later than that which they carry on their title pages. This objection is not well taken, as stated by Dr. Allen, for, although some of the reports issued by our government may bear dates much prior to the dates of issue, it does not follow that the date of printing bears any such relation to the date of issue. They are, in fact, often printed as near the date of issue as are other books, the delay being prior to or during the printing. Here again the date of printing can be easily ascertained from the printing office. But in case of the detention of a book by the government subsequent to the printing, the question of the coincidence of the date of printing and of 'offer to the public' will depend on whether copies of the book can be had on demand or not. If the book can be had, it is 'offered to the public.' If it cannot be had, it is not offered to the public.

Third. The test of publication is according to Dr. Allen that it be 'offered to the public.' I agree with this, but hold that the only determinable test of date of offering to the public is the date of printing. The presumption is, that as soon as a book is printed and bound, it is offered to the public. That is the object of printing books. If the public does not buy or take what is offered, the duty of the publisher is fulfilled, the book is published just as much as though the edition were sold out in a day. How many copies must be sold or accepted in order to constitute a distributive publication? A single copy would constitute distribution, yet the scientific public might not be a whit the wiser for it.

Fourth. There is no doubt that the rule that the date of printing be regarded as the date of publication involves the difficulty which Dr. Allen cites as regards certain government books withheld from circulation though printed. However, these are really subject to the inquiry whether they may not be had on demand privately. The difficulties involved in the determination of the date of distribution or sale are in many instances insuperable, and in many cases unprofitable, since the only result of the inquiry would be the discovery of the date of issue of so few copies, often of one only, as not to constitute publication in the sense of distribution

at all. Further, the assumption by Dr. Allen that in adopting this rule the Zoological Section of the American Association for the Advancement of Science were violating existing rules and customs is far from correct. It really formulated the "rule generally adopted by scientific bodies," as stated by Dr. Allen, "to the effect that the ostensible date, as that given on the title page of a book or pamphlet, or at the bottom of the signatures, shall be taken as the correct date, unless known to be erroneous." These dates are simply the dates of printing of the separate part or whole of a book on which they are placed, and are not the date of distribution, which cannot, of course, be printed with the book.

E. D. COPE.

GLACIERS IN THE MONTANA ROCKIES.

IN my paper published in SCIENCE of December 13, 1895, and giving an account of some explorations in the Rocky Mountains between the Great Northern Railway and the International Boundary, I mentioned the existence of several other glaciers than the one particularly described.* My attention has been since called to a paper presented by Mr. G. C. Culver; now of the State Normal School at Stevens Point, Wisconsin, to the Wisconsin Academy of Sciences, in which he describes his explorations in that region. Mr. Culver accompanied an exploring party commanded by Lieut. Ahern, U. S. A., and made many interesting observations. He did not personally visit any of the glaciers, but was in camp near one of the largest for two or more days. This is now located upon the military map of the state under the name of Culver glacier. In his paper on the subject Mr. Culver describes the glacier, but does not name it. The Culver glacier lies to the northwest of that described in my paper of December last and about fifteen or more miles distant. Mr. Culver locates upon his map several small glaciers in the general vicinity of that explored by myself. His route was such that at no point upon it could the glacier described by me be even seen. I am sure of this both from personal familiarity with the ground and from the testimony of friends who have penetrated the

*This glacier has since been referred to by Dr. Sperry and others as the Chaney glacier.

region for the purpose of hunting. I wish now to add that during the past summer Dr. L. B. Sperry, who was with me a year ago, has again visited the region and solved the problem of the glacial water of Avalanche Lake, as described in my former paper. His party discovered in the mountains at the head of Avalanche Basin, a hitherto unknown glacier which will hereafter be known as the Sperry glacier. Like the majority of the glaciers of this region it begins in narrow gorges, high up in the mountains, and spreads out into a hand-like mass terminating near the top of the cliffs above Avalanche Basin. In form it is the exact opposite of the glacier explored by myself. That seems to be unique among those yet discovered in filling a large amphitheatre and in extruding thence by a long narrow tongue much farther down the mountain side than do any of the others.

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INTERNATIONAL COOPERATION IN AERONAUTICS.

TO THE EDITOR OF SCIENCE: The excellent article published in your issue of October 9th on an International Association for the Advancement of Science deserves the attention of every friend of scientific progress. If your suggestions are adopted, as they certainly will be, the rivalry between different nations will become beneficial, as the peculiar genius of each will serve to excite mutual emulation.

A good example of what cooperation can accomplish may be found in the proceedings of the International Congress of Meteorology held in Paris during September. I shall confine myself to a brief notice of what has been accomplished by the Committee for Scientific Aeronautics, of which Mr. Lawrence A. Rotch and I are members. It is well known that in 1892 MM. Hersuite and Besançon carried out experiments with balloons and measured the temperature of the air at altitudes exceeding 10,000 meters. By gradually enlarging the diameter of these balloons altitudes exceeding 60,000 m. have been reached and temperatures below 50° C. have been recorded. These experiments published in the *Comptes Rendus* and in *L'Aérophile*, attracted the attention of the Aéro-

nautical Society, of Berlin, which has sent up to great altitudes a number of free balloons carrying self-registering instruments. This work was assisted by a large subscription from the Emperor of Germany.

It has now been proposed to establish a series of simultaneous ascents from Paris, Berlin and Strasburg (where an Alsatian Aëronautical Society has recently been formed), and ultimately from St. Petersburg. This work is under the charges of the Committee on Aëronautics appointed at the Meteorological Conference. A free balloon will be sent up from Paris by Wm. Hersuite and Besançon, on November 14th, at 2 p. m., and it has been requested that balloons be sent up from the German stations at the same time. This night has been selected in view of the meteoric showers, as ascensions may be made to advantage by aëronauts to observe the meteors above the clouds, and they could at the same time secure records with barometers and thermometers. I may be permitted to say that I have myself set the example of making an ascent on that night, which I did as far back as 1867. The results of this ascent by night were published in *Aërial Travels*, edited by T. Glaisher.

If this short note should induce any American observer to make an ascent or to send up free balloons at the dates fixed on in France and Germany, he will do a great service by publishing the results in SCIENCE, so that they may be known abroad. W. DE FONVIELLE.

PARIS, October 30, 1896.

SCIENTIFIC LITERATURE.

The Life and Letters of George John Romanes:

Written and edited by his wife. 8vo. Pp. IX., 360. Longmans, Green & Co., London, New York and Bombay.

This charming memorial of Romanes should be widely read. Romanes was not only an investigator of ability, a writer of great gift, but he was also a man endowed with a rare combination of personal qualities. The portrayal of his character is an interesting revelation even to those familiar with his writings. The biography is more than well done, for it bears on every page the signs of loving discrimination, and, though the editor retires entirely behind