in its house at Broadway and 156th Street in 1914 in commemoration of Captain Palmer's achievement; (f) the National Geographic Society, the Franklin Institute, the American Philosophical Society, and so forth.

The logbook of the *Hero* and associated manuscripts in the Palmer Papers demonstrate three important things. The motive for the voyage was business, namely, the gathering and sale of fur-seal skins and seal-oil. Palmer discovered Deception Harbor, the breached volcanic crater in Deception Island; he explored Yankee Sound [McFarlane Strait] and many other parts of the South Shetland Islands, charting them creditably but not platting his observations into maps. Last but by no means least, the log of the *Hero* specifically demonstrates that various secondary accounts of the adventure are erroneous.

One author, writing only a dozen years after the return of the *Hero,* and writing from Stonington, asserted that Palmer encountered the Russian Admiral on the return from the discovery cruise; obviously he had not perused the log of the *Hero* which proves that the encounter took place some 80 days earlier and in 1820 rather than in 1821. Another author, writing from Philadelphia, said that "only remarks about the weather and the sea are entered [in the log of the *Hero*] during the time in which [Captain Palmer's] exploration was made"; this gentleman did not read the right portion of the logbook; a third author set forth the logbook record of the first one of the seven days of the discovery cruise, and then presented an erroneous digest of the entries for the six ensuing days during which Palmer went to Antarctica and back; if he observed the words that contain the specific latitude of the Antarctic coast and the characterization of its appearance, he did not apprehend their significant importance. And yet this third author wrote a whole book about Captain N. B. Palmer.

Finally it must be pointed out that the Royal Geographical Society's claim, a dozen years ago, that Bransfield anticipated Palmer some nine months in the discovery of the Antarctic mainland, is not based upon any existing logbook, as Palmer's discovery is now known to be. The third-hand record of Bransfield's sighting of a supposed peak, through fog, on January 31 or February 1, 1820, does not necessarily involve a peak on the Antarctic mainland rather than upon one of the islands northeast of the terminus of Palmer Land.

The log of the *Hero* is irrefutable evidence of Captain Palmer's discoveries in November, 1820, near 60° 10′ West Longitude and 63° 45′ South Latitude.

LAWRENCE MARTIN

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THE WATER CONTENT OF MEDUSAE

THE impression that medusae consist of 99.8 per cent. water appears to have become current among biologists. This idea seemingly originated from Gortner's[1] report that a 500 gram medusa had left less than half a gram dry residue. Gortner's finding was already questioned by Bateman,[2] who quoted some of Krukenberg's[3] data on the matter. Gortner's reply[4] seems to me unconvincing and refers to only one of the several available references on the water content of medusae. The fact that the wet weight of Gortner's medusa was not accurately known is of no consequence, since the error in the wet weight would need to be enormous to make a difference of 3 or 4 per cent. in the water content. The method of drying, however—simply leaving the medusa to dry in air on a sheet of paper—is thoroughly objectionable. In recent observations on medusae (*Aurelia*) left to dry on a sheet of paper, I have found that the medusae soon decompose and the jelly liquefies to a thin watery fluid which inevitably runs off the paper, leaving only a fraction of the original animal behind. I believe this is the reason Gortner's medusa left only a trace of dry matter. There is nothing about his report to indicate that the animal was watched during the drying process (which probably required three or four days) to see that no loss occurred. Some sort of error in Gortner's observation is self-evident, as Hill[5] has already pointed out, for a medusa must at least leave a salt residue similar to the salt content of the sea, which for a 500-gram medusa would amount to 16 or more grams, surely something more than a hardly visible stain on a sheet of paper. My oven-dried medusae, half or less the weight of Gortner's animal, dried to a yellowish sheet, containing an abundance of salt crystals.

The following is believed to be a complete list of the literature on the water content of medusae. Krukenberg[3] reported a water content of 95.4 per cent. for *Rhizostoma,* 95.3 and 95.79 per cent. for *Aurelia,* and 95.75 and 96.3 for *Chrysaora.* Vernon[6] gave the dry. content of *Carmarina* as 0.38 per cent. organic matter plus 4.3 per cent. salts and of *Rhizostoma* as 0.53 per cent. organic matter plus 4.3 per cent. salts, or a water content of about 95.3 per cent. Hatai[7] records a water content of 94.14 per cent. for entire *Cassiopea,* 94.4 per cent. for the umbrellar jelly alone, and 93.8 per

1 *Trans. Faraday Soc.,* 26: 678; quoted in full in SCIENCE, 77: 282.
2 *Jour. Exp. Biol.,* 9: 124.
3 *Zool. Anz.,* 3: 306.
4 SCIENCE, 77: 282.
5 *Trans. Faraday Soc.,* 26: 687.
6 *Jour. Physiol.,* 19: 18.
7 *Carnegie Inst. Wash. Publ.* 251: 97.

cent. for the more cellular parts (margin and oral lobes). Teissier[8] found 96.5 per cent. water in *Chrysaora hyposcella.*

The foregoing figures apply to medusae taken in water of typical salinity or nearly so. In very brackish water, the water content may increase, at least in *Aurelia.* Thus Möbius[9] reported a water content of 97.9 and 97.94 per cent. for *Aurelia aurita* from the Bay of Kiel with a salinity of 17–18 parts per thousand. This result has recently been verified by Thill,[10] who found 98 per cent. water in *Aurelias* from a port in the Danish Wiek on the Baltic with a salinity of 7.3 per thousand.

During a stay at the Mt. Desert Island Biological Laboratory, Maine, the water content of several large *Aurelias* was determined. The salinity of the water around Mt. Desert Island is given by Bigelow[11] as 31.5–32.6 parts per thousand, a little less than that of the open Atlantic. The animals used were pulsating actively but were not anatomically perfect, all showing some marginal damage. It was not thought advisable to rinse them in fresh or distilled water because of a possible loss of salts; but No. 7 was thoroughly rinsed in fresh water as a check. The others were simply drained for a few minutes. The drained medusae were immediately placed in previously weighed glass or aluminum containers and subjected to dry heat in an electric oven at temperatures varying from 60 to 110° C. The drying was completed in a desiccator over concentrated sulfuric acid.

The data on the nine specimens used are given in Table 1.

TABLE 1

No.	Wet weight grams	Dry weight grams	Per cent. water
1	175.013	7.141	95.9
2	163.892	6.639	96.0
3	82.271	2.831	96.6
4	86.140	3.434	96.0
5	123.745	4.689	96.2
6	129.444	4.915	96.2
7	149.255	5.619	96.3
8	127.802	4.872	96.2
9	264.916	10.382	96.1

From these data and those in the literature it is evident that the water content of medusae in sea-water of typical salinity is 94–96.5 per cent.; in brackish water of less than half this salinity, the water content may rise to 98 per cent.

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AMERICAN MUSEUM OF NATURAL HISTORY

[8] *Bull. Soc. Zool. France,* 57: 160.
[9] *Zool. Anz.,* 5: 586.
[10] *Zeit. wiss. Zool.,* 150: 51.
[11] *Bull. U. S. Bur. Fish.,* 40, pt. II: 813.

MEDICAL CLASSICS

PROFESSOR J. M. D. OLMSTED, of the University of California Medical School, contributed to the issue of SCIENCE for December 3 a statement concerning the second number of *Medical Classics,* which was published in October, 1936. This number was devoted to four of the important papers of Sir Charles Bell, those illustrating the original work on Bell's Law, Nerve, Palsy and Phenomenon. Dr. Olmsted overlooked three of the contributions of Bell, especially the "Idea of a New Anatomy of the Brain" which is one of the most important and difficult to obtain of any of Bell's writings. Of the five leading medical libraries in the United States only the Army Medical Library owns a copy.

Dr. Olmsted confines his review to a criticism of the use of Bell's paper, "On the Nerves," and states that the paper as published was not as given before the Royal Society on July 12, 1821. Bell's paper, as we reproduced it, was preceded by a photographic reproduction of the title page of the book from which it was taken, "The Nervous System of the Human Body," published in Washington in 1833. I believe no one would be in doubt as to the actual source of the paper.

When we consider that Magendie himself gives Bell credit for priority, I do not believe it adds to our stature to stress small differences in the texts of these two great men. The battle of Magendie *versus* Bell has raged for a hundred years, and even now there appear many advocates for either side. It is the intention of *Medical Classics* to convey knowledge as we find it in these famous papers and not necessarily to attempt to show old rivalries and differences of opinion as to whom proper credit is due. The modern physician, whom we are trying to interest in the broad aspects of medical history, does not like to be confused and irritated by petty controversies. Both Magendie and Bell were great men, and there is honor enough for both of them.

EMERSON CROSBY KELLY

POLLEN AND HAY FEVER

THE letter from Dr. Douglas H. Campbell published in SCIENCE for January 7, page 16, is an interesting example of the reappearance of ideas which at one time might have been regarded as plausible. However, a few minutes' inquiry should be sufficient to relegate this one to the shelf where it has lain undisturbed for some sixty years.

If the medical man of whom Dr. Campbell inquired had been an allergist, he would have referred him either to Dr. Charles Harrison Blackley's "Hay Fever," published by Baillière, Tindall and Cox, London, second