was, would become very sensible. I recommend it therefore to the society, as opportunity shall offer, to procure the experiments to be made of the present degree of saltness of the Ocean, and of as many of these lakes as can be come at, that they may stand upon record for the benefit of future ages.

If it be objected that the water of the Ocean, and perhaps of some of these lakes, might at the first beginning of things, in some measure contain salt, so as to disturb the proportionality of the increase of saltness in them, I will not dispute it: but shall observe that such a supposition would by so much contract the age of the world, within the date to be derived from the foregoing argument, which is chiefly intended to refute the ancient notion, some have of late entertained, of the eternity of all things; though perhaps by it the world may be found much older than many have hitherto imagined.

GEORGE F. BECKER

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## *THE NAVAL OBSERVATORY: THE COMPLETION OF THE CATALOGUE OF THE WASHINGTON ZONES OF 1846–52*

SHORTLY after the founding of the Naval Observatory, the superintendent, Lieutenant M. F. Maury, U. S. N., in the spring of 1846 directed the observers on the mural circle, the meridian circle and the transit instrument, when these instruments were not otherwise employed, to determine the positions of all the stars culminating above the horizon at Washington and visible with these instruments, beginning at the southern horizon and working northward. In three years 41,700 observations had been made, covering about 30° in declination. No observations seem to have been made during the next two years, but with the installation of the chronograph observing was resumed and 3,200 observations were made during 1851–2. The total number of observations discussed in forming the catalogue is 44,900.

In 1860 was published the first volume of the zones, those observed with the meridian circle in 1846. Shortly thereafter an appropriation was secured from congress for the reduction of the zone observations and Dr. B. A. Gould, of Cambridge, Mass., was secured to take charge of the work. The observations made in 1846–9, except those already published and two books of 3,400 observations which had been mislaid, were copied from the observing books on reduction sheets which were sent to Dr. Gould. The reductions were promptly made and the printer's copy returned. Several years later, 1872–3, the results sent by Dr. Gould were published under the direction of Professor Asaph Hall, U. S. N., in three volumes, as appendices to the Washington observations.

In order to facilitate the cataloguing of these zones, a list of stars to serve as zero stars was selected and added to the observing list of the 8.5-inch transit circle by Professor J. R. Eastman, U. S. N., who also had the individual observations in the four volumes previously mentioned copied on cards. The copying on one card of all the observations of the same star was commenced when work was again stopped.

This was the state of the work in 1901 when cataloguing was undertaken by the writer. A complete rereduction of the observations has not been attempted, but a systematic search has been made for all appreciable errors. In this work have been utilized a manuscript list of 2,200 corrections by Professor J. C. Kapteyn and another of 500 by Dr. F. Ristenpart, and an effort has been made to identify each star observed but once with one in the "Cape Photographic Durchmusterung," the "Cordoba Durchmusterung" or the "Bonn Durchmusterung." All single observations not thus identified are being looked up with one of the equatorials at the observatory.

The 3,400 unpublished observations of 1847–8 and the 3,200 of 1851–2 were reduced under the direction of Professor F. B. Littell, U. S. N., in the same manner as that used in reducing the published results.

The published observations, corrected as a result of the above-mentioned comparisons, together with the unpublished ones, were compared with the positions of the "Cordoba General Catalogue" and zone corrections were determined for each night's work to reduce the Washington observations to the system of the "Cordoba General Catalogue."

After all the observations had been thus reduced the systematic difference between the "Cordoba General Catalogue" and the "Cape Catalogue" of 1850 was applied as the mean epochs of the Cape, and the Washington observations are approximately the same.

A comparison with a manuscript copy of a catalogue of the mural zones prepared by Dr. E. S. Holden and furnished the observatory through the courtesy of Dr. Holden and Professor W. W. Campbell, while disclosing a number of differences in identification, has led to only nine changes in the 8,744 observations so far compared.

A preliminary discussion of the catalogue positions gives the following mean differences between two observations.

MEAN DIFFERENCE BETWEEN TWO OBSERVATIONS IN RIGHT ASCENSION

| Instrument | 1846–1849 (Eye and Ear) | | | | 1851–1852 (Chronograph) | |
|---|---|---|---|---|---|---|
| | Number of Differences | Two Threads in Each Observation | Number of Differences | Three Threads in Each Observation | Number of Differences | Five Threads in Each Observation |
| | | s | | s | | s |
| Mural circle ..... | 246 | 0.20 | 172 | 0.16 | 150 | 0.09 |
| Transit instrument. | 334 | 0.17 | 70 | 0.15 | 394 | 0.11 |
| Meridian circle..... | 224 | 0.22 | 213 | 0.18 | 286 | 0.15 |

MEAN DIFFERENCE BETWEEN TWO OBSERVATIONS IN DECLINATION

| Instrument | 1846–1849 | | 1851–1852 | |
|---|---|---|---|---|
| | Number of Differences | Mean Difference | Number of Difference | Mean Differences |
| Mural circle ..... | 407 | 1.″5 | 142 | 2.″1 |
| Transit instrument. | 206 | 2.8 | 331 | 2.5 |
| Meridian circle..... | 394 | 2.5 | 244 | 1.9 |

At the present time over one half of the printer's copy of the catalogue is completed. As fast as the copy is finished one set of the results is being sent to Dr. A. Auwers, of Berlin, for insertion in the "Geschichte des Fixsternhimmels." The entire catalogue will be ready for the printer in two or three months.

W. S. Eichelberger

January, 1910

## THE AMERICAN SOCIETY OF ZOOLOGISTS EASTERN BRANCH

The Eastern Branch of the American Society of Zoologists met at the Harvard Medical School, Boston, Mass., on December 28, 29 and 30, 1909.

The following resolution was adopted:

*Resolved* (1) That the Eastern Branch of the American Society of Zoologists express its gratitude for the work of the Commission on Nomenclature of the International Zoological Congress.

(2) That it is the sense of the society that the commission be encouraged to extend its present work of deciding questions as to particular specific and generic names.

(3) That it is the sense of the society that the commission should of its own motion extend its jurisdiction to the ruling in or out of particular works of disputed status, like the Museum Bolteneanum.

(4) That in rendering decisions the commission have power to disregard the priority rule for sufficient and specified equitable reasons.

(5) That all members of this society should submit their questions of nomenclature to the international commission and abide by its decisions.

The president of the society, Professor H. S. Jennings, Johns Hopkins University, and Professor E. L. Mark, Harvard University, were appointed to act as delegates of the society at the eighth International Zoological Congress.

Officers were elected as follows:

*President*—Thomas H. Montgomery, Jr., University of Pennsylvania.

*Vice-president*—Harris H. Wilder, Smith College.

*Secretary-treasurer*—Herbert W. Rand, Harvard University.

*Member of Executive Committee*—David H. Tennent, Bryn Mawr College.

The following papers were presented:

*The Segmentation of the Salpa Stolon, with some Reflections on Segmentation Generally:* W. E. Ritter, University of California.

*Some Problems of Cœlenterate Ontogeny:* Chas. W. Hargitt, Syracuse University.

The paper briefly reviews certain facts of hydroid development brought to the attention of the society on previous occasions, and cites additional facts and observations which confirm the earlier results. Of the latter may be cited those found