

Barton Says Good Tickets Due Students

"Possibilities are very good for getting a section in the present student section in Kenan stadium for those students with dates. Students and dates should not be forced to sit in the end zone or other bad sections," Ken Barton, chairman of the Football Ticket committee said yesterday.

The committee, one of the many committees of Henry Bowers' Cabinet, has been working on a plan to secure a student date section in the regular student section.

Barton gave an outline of the investigation plans yesterday. According to the plans to this point, it is hoped that at least 500 additional seats can be secured for next season. The addition of this number would enlarge the student section to provide seats for dates.

However, the committee does not intend to stop at this point. They are at present working on the possibility of moving the alumni section whereby the student section could be further enlarged.

Unitarian To Give Duke Services

Dr. A. Powell Davies, Unitarian minister of All Souls' church in Washington will conduct services at Duke University chapel Sunday at 11 a.m.

He will be the first Unitarian minister ever to conduct these services. Dr. Davies is well known for his outspoken championship of many liberal causes.

Of English parentage, he became an American citizen in 1935. He is the author of many books on the subject of America and religion.

There will be a reception at 1:30, to meet Dr. Davies, in room V204, Student Union building, West campus at Duke. Transportation to Duke may be secured by calling Mrs. Edith Duerr, at 2-2286.

The Carolina basketball team ends the season with a 3-2 edge in victories over intersectional teams. The Tar Heels have defeated Southern California, Columbia and Temple, while dropping contests to Bradley and Illinois.

Antique Navigation Instruments Displayed In Morehead Show; Some 2,000 Years Old

By Fred McGee

Navigational instruments dating back more than 2,000 years are now on display at the Morehead Planetarium.

The collection shows the progress in navigational techniques from the Astrolabe, invented by Hipparchus in 150 B.C., to the ultramodern Aircraft Sextant used now by the U. S. Army.

The collection includes the Cross-Staff or Fore-Staff, Davis or English Quadrant and the early Sextant.

Map Forms Background

Forming the background for the exhibit is a reproduction of a 400-year-old map on which the name "America" first appeared. Called the "Stevens-John Carter Brown" map, it was engraved and printed about 1506 at Nuremberg, Germany, from wood blocks, and is the first printed map known to show any of the New World discoveries.

The original of the map was found and recognized by Henry N. Stevens who purchased it at an auction in London in 1893. He later sold it to John Nicholas Brown, who presented it to the John Carter Brown Library in Providence.

The exhibit will continue for several weeks and will be open from 2 p.m. to 10 p.m. week days, 10 to 10 Saturdays, and from 1 to 10 p.m. Sundays.

To aid the viewer in understanding the uses of the navigational instruments, artificial suns, horizons, and lines of sight have been attached to each item.

Ancient Instruments Included

The collection begins with the ancient Astrolabe, a round brass disc of about five inches in diameter which hangs by a cord from the thumb of the navigator who in turn sights through a tiny hole to determine the altitude of any celestial body.

To find the appearance of the sky or location of stars at a given time for a particular latitude, eight different latitudinal discs are individually inserted behind the rete or star map on the face of the instrument at the desired latitude. The Astrolabe, a remarkable instrument of its day, was loaned to the Planetarium by the Fels Planetarium, Philadelphia.

A less elaborate but later method of navigation came about with the development of the Cross-Staff or Fore-Staff one of the few navigational instruments used

by Columbus and Vasco Da Gama.

Used independently or in conjunction with the Astrolabe the Cross-Staff could be employed to find the angular separation of any two objects while its predecessor was useful only in obtaining altitude measurements.

The instrument on display is a reproduction of a 15th century model and resembles a hunter's "cross bow." The cross section is moved up and down on a staff which is marked off in degrees, and when the two objects to be measured are lined up at the ends of the cross section, a reading is taken.

Led to English Quadrant

The Astrolabe and Cross-Staff led to the development of the Davis or English Quadrant, which was designed and built by John Davis in 1594. The Quadrant on display was built in 1725 and was loaned to the Planetarium by Mrs. Howard Snelling of Pittsboro. In its day it provided the most accurate navigational measurements of any previous instrument.

Some 200 years after the Quad-

rant was developed, Sir Isaac Newton suggested the principle of the Sextant, but it was not developed until John Hadley built one in 1731. The Sextant used today for the navigation of surface craft is basically the same as the very early models, one of which is on display. The ebony and ivory model now at the Planetarium was loaned by Dr. T. T. Jones of Durham, and was constructed early in the 19th century by Messer of London.

Latest Model Electrical

Not many changes had been made in the original Sextant until the Army Air Corps applied the principle to aircraft navigation and developed an ultramodern version during World War II. The Army Sextant is very compact (and more complicated, too), but its main purpose is to make faster readings to compensate for the speed of aircraft as contrasted with surface craft. An even later model has recently been developed and it is electrically operated for faster action.

-Promotions-

(Continued from page 1)

versity, M.S. University of Illinois, professor and head, Department of Periodontology and Oral Pathology.

Dr. Marvin Edwin Chapin, D.D.S. Chicago College of Dentistry, Loyola University, professor and head, Department of Oral Surgery.

Named professor of accounting in the School of Business Administration is Dr. Willard J. Graham, A.B. Tarkio (Mo.) College, A.M. and Ph.D. University of Chicago, CPA. State of Illinois.

Ben James Winer, B.S. and M.S. University of Oregon, Ph.D. (pending) Ohio State University, was appointed assistant professor in Psychology Department.

William West Taylor, B.S. and Ph.D. (pending) UNC, was named assistant professor of hospital pharmacy and chief pharmacist of the University Hospital.

Dr. Frederic E. Coenen, associate professor in Germanic languages, and Dr. George Alexander Heard, associate professor in political science, were promoted to full professors.

Robert L. Stallings, Jr., associate professor, School of Business Administration, and Dr. Douglas Duke, assistant professor of astronomy, resigned as of November and December, respectively.



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