

he described in detail the classical 48 constellations that had been established by Ptolemy in the *Almagest*.⁴ For each constellation he gave a detailed discussion of the individual stars; a list of indigenous Arabic star names of objects falling under the Greek constellation, together with a precise identification of each object with the respective Ptolemaic stars; two drawings of the constellation, one as seen in the sky, and one as seen on the celestial globe (where the left and right sides, and East-West, are always reversed); and a catalogue of the stars belonging to that constellation. Here, under the constellation of Andromeda, in the description of the indigenous Arabic names, he occasionally mentions the Andromeda Nebula. In describing the figure of a big Arabic "Fish" lying across the figure of Ptolemy's Andromeda,⁵ he says that this "Fish" is made up by two lines of stars beginning from the "nebulos spot" (*latkha sahabiya*) which is close to the 14th star of the constellation (v And, on the right side of the figure, being one of the three stars βγν And on the girdle, or loin cloth, of Andromeda).⁶

This is an occasional reference, in al-Sufi's book, to the Andromeda Nebula. The author does not give more details about this object which did not form part of the material transmitted in Ptolemy's star catalogue; but it is evident that al-Sufi had observed the Nebula, and he used it, in context, as a point of reference in the description of the position of an old indigenous Arabic asterism.

The drawing of Andromeda with the big Fish, added to the description of the constellation, carefully indicates the "nebulos spot" mentioned in al-Sufi's descriptive text: it is marked by some dots on the mouth of the big Fish (see Fig. 1). In other manuscripts, in addition, the word *sahabi* ("nebulos") is written beside the dots on the Fish's mouth.

In the 13th century, there originated, perhaps in Sicily, a Western branch of the Sufi tradition, the so-called *Sufi Latinus corpus*, of which eight manuscripts have been found until now.⁴ It consisted, basically, of Ptolemy's star catalogue in the Latin version made in Spain, in the 12th century, by Gerard of Cremona (from the Arabic); but in the star coordinates the longitudes were converted to al-Sufi's value (= Ptolemy + 12°42'); further, to each constellation a drawing was added (i.e., one of the two drawings in al-Sufi's original work); and in some of the manuscripts in the title the author's name was mentioned as *Ebenesophi* (from the corrupted Arabic Ibn al-Sufi, instead of the correct form al-Sufi). Most of the eight Latin manuscripts have meticulously repeated the dots designating the "nebulos

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spot" (i.e., the Andromeda Nebula), in front of the big Fish's mouth, in the drawing of Andromeda with the big Fish (for a specimen, see Fig. 2).

It is interesting to see how carefully the Western copyists and draughtsmen have reproduced those dots beside the figure of Andromeda although they could not understand what they meant because al-Sufi's descriptive text itself had not been translated into Latin.

References

1. For the *Almagest*, see P. Kunitzsch, *Der Almagest. Die Syntaxis Mathematica des Claudius Ptolemäus in arabisch-lateinischer Überlieferung* (Wiesbaden, 1974); Claudius Ptolemäus, *Der Sternkatalog des Almagest. Die arabisch-mittelalterliche Tradition*, i: *Die arabischen Übersetzungen*, Herausgeg., ins Deutsche übertragen u. bearb. v. P. Kunitzsch (Wiesbaden, 1986). A recent
2. Ptolemy, *Tetrabiblos*, ed. and transl. F.E. Robbins (The Loeb Classical Library, repr. Cambridge, Mass./London, 1971), p. 320–321.
3. See P. Kunitzsch, apud W. Hübner, *Die Eigenschaften der Tierkreiszeichen in der Antike* (Sudhoffs Archiv, Beiheft 22; Wiesbaden, 1982), p. 358f.
4. P. Kunitzsch, article "al-Sufi", in: *Dictionary of Scientific Biography*, vol. xiii (New York, 1976); *idem*, "The astronomer Abu I-Husayn al-Sufi and his Book on the Constellations", *Zeitschr. f. Geschichte d. Arab.-Islam. Wissenschaften* 3 (1986), 56–81.
5. See P. Kunitzsch, *Untersuchungen zur Sternomenklatur der Araber* (Wiesbaden, 1961), no. 126a.
6. H.C.F.C. Schjellerup, *Description des étoiles fixes... par Abd-al-Rahman al-Sufi* (St.-Pétersbourg, 1874; repr. Frankfurt/M., 1986), p. 118–119.

English translation (from the original Greek) is: *Ptolemy's Almagest*, Translated and Annotated by G.J. Toomer (London, 1984).

ALGUNOS RESUMENES

Bengt Strömgren (1908–1987)

Bengt Strömgren, ex presidente del Consejo de ESO (1975–1977) falleció el 4 de julio luego de una corta enfermedad. Su presidencia ocurrió en un momento particularmente difícil en la historia de la ESO. Gracias a su sabiduría y la manera confiada y decisiva como manejó los asuntos de ESO, se pudieron evitar muchos riesgos y se pudo establecer un alto grado de armonía entre las delegaciones de los estados miembros, que aun perdura.

Bengt Strömgren fue un destacado científico. En el año 1922, a la edad de 14, publicó sus primeros resultados sobre el cometa Baade 1922c en "Astronomische Nachrichten" (217, p. 345). Uno de sus últimos pre-

prints apareció tan solo pocos días antes de su deceso. Bengt, hijo de Elis Strömgren, Director del Observatorio de Copenhagen, obtuvo su doctorado en 1929, fue profesor de astronomía en 1938 y director en 1940. Entre los años 1951–57 fue director del Observatorio Yerkes de la Universidad de Chicago. Durante los siguientes diez años fue miembro de la Facultad del Instituto de Estudios Avanzados en Princeton. En 1967 regresó a Copenhagen para ocupar la "Casa de Honor", ser profesor de astrofísica y durante varios años director de NORDITA, el instituto de investigación común de los cinco países nórdicos. Entre los años 1970 hasta 1973 fue presidente de la Unión Astronómica Interna-

ESO, the European Southern Observatory, was created in 1962 to... establish and operate an astronomical observatory in the southern hemisphere, equipped with powerful instruments, with the aim of furthering and organizing collaboration in astronomy... It is supported by eight countries: Belgium, Denmark, France, the Federal Republic of Germany, Italy, the Netherlands, Sweden and Switzerland. It operates the La Silla observatory in the Atacama desert, 600 km north of Santiago de Chile, at 2,400 m altitude, where thirteen optical telescopes with diameters up to 3.6 m and a 15-m submillimetre radio telescope (SEST) are now in operation. A 3.5-m New Technology Telescope (NTT) is being constructed and a giant telescope (VLT=Very Large Telescope), consisting of four 8-m telescopes (equivalent aperture = 16 m) is being planned for the 1990's. Six hundred scientists make proposals each year for the use of the telescopes at La Silla. The ESO Headquarters are located in Garching, near Munich, FRG. It is the scientific-technical and administrative centre of ESO, where technical development programmes are carried out to provide the La Silla observatory with the most advanced instruments. There are also extensive facilities which enable the scientists to analyze their data. In Europe ESO employs about 150 International Staff members, Fellows and Associates; at La Silla about 40 and, in addition, 150 local Staff members.

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cional. Durante más de una década fue presidente del Comité Danés del Cáncer, lo que demuestra la vasta gama de sus intereses.

La mayoría de los astrónomos daneses en alguna forma son sus estudiantes, y muchos de nosotros en otros lados hemos sido influenciados por él como post-doctorados o asociados. Y muchos aprecian la generosa

hospitalidad de Bengt y Sigrid Strömgren.

Si para un científico la marca de una vida llena de éxito significa el haber tenido un gran impacto y haber contribuido a la ciencia en forma perdurable, entonces, en efecto, Bengt Strömgren ha sido una persona afortunada. Será extrañado por todos aquellos que lo conocieron.

L. Woltjer

Control remoto desde Garching

Desde el 1º de julio de 1987 ESO está ofreciendo el uso de control remoto desde Garching como alternativa a los viajes a La Silla, a los astrónomos que tienen tiempo de observación al telescopio de 2.2 m. Los instrumentos disponibles son el espectrógrafo Boller & Chivens con un detector CCD y el CCD usado en forma directa con el adaptador del 2.2 m.

Los utilizadores encuentran en Garching las mismas consolas de control como las que existen en el cuarto de control del telescopio de 2.2 m. Durante la sesión de observación pueden obtener monitor del campo, imágenes del buscador del telescopio e imágenes

CCD, y pueden enviar órdenes a los instrumentos y telescopios (ver foto en la página 35). Todo ésto es posible a través de una línea arrendada que también se usa para comunicaciones telefónicas.

A pesar de que la mayoría de las noches adjudicadas en julio resultaron casi inutilizables debido al mal tiempo, varios astrónomos tuvieron la oportunidad de familiarizarse con el sistema.

Alrededor de octubre de 1987 también el espectrógrafo CES con CCD (usando el telescopio CAT) podrá ser utilizado a través de control remoto desde Garching.

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