

for a Giant Metre-wave radio **tel.**, **obsn.** whole e.m. spectrum, stellar and inter-stellar, galactic and extra galactic, planets & comets, **arch.** solar records since 1900, solar eclipses, variable stars, radio X-ray and g-ray sources, **part.** Carte du Ciel (Hyderabad), GONG (Udaipur) etc.

It is clear from this listing, that Indian astronomical research is the most extended one, well developed in the last three decades; that of Indonesia is also appreciable. South Korea will surely develop astronomy research even in universities at the turn of the present century. Many countries in the Middle East, especially North African *Maghreb*, are still struggling, although Egypt has a long standing of astronomy & Iran is following suit. However all of us, including India, are quite weak in astronomy education in the universities. For instance, out of 150 Indian universities only two at Hyderabad & Patiala have astronomy departments. Consequently we are more concerned with manpower problem than that of archival material, despite the world-wide importance of the latter. We intend to publish a detailed write-up elsewhere.

The author gratefully acknowledges the cooperation of colleagues & directors of observatories for providing information quite promptly.

UP TO DATE PROPER MOTIONS OF STARS FROM OLD "CARTE DU CIEL" PLATES

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The year 1887 was launched at the Paris Observatory, under the suggestion of Mouchez (then director of the Observatory) and of Gill (then director of the Cape Observatory), an international enterprise named "Carte du Ciel". It was a consequence of the development of photography during the 19th century and the level of quality attained during the eighties at the time a great comet was obtained on a plate together with an incredible number of stars. During the 87 meetings and the following ones, it was decided that there would be two programmes : - plates for the "Carte" of the Carte du Ciel with three exposures of 30 min in triangle for each case ; - plates for the "Catalogue" of the Carte du Ciel with three exposures of 30s, 5 min and 5min 30s on a line for each case.

Around 1900, and in some cases, a little further, 17 or 18 observatories participated and some re-observations were performed around 1950. During the 1970 GA, Paul Couderc has given a report about the achievement of the work for the Carte du Ciel programme. In most cases the plates are still in existence, kept in various observatories and catalogues were published. Published data and plates are both in use nowadays as it can be seen from a meeting held in Cambridge in June 1993 on the subjects "Galactic and Solar system optical astrometry". After one century, they constitute a "first epoch" for the modern observations, both from the ground and from space.

The value recognized in countries, such as UK, USA, Germany, Denmark, Ukraina, Russia,..., in the interest of the Carte du Ciel plates and the published corresponding catalogues, brings us to think about the conservation and preservation of archives, data and related documents for the coming generations, even in the case we do not know with great certitude what could be their use : an observational fact in astronomy can never be repeated...

S. Débarbat reported also "*On the Astronomy of oracle bone inscriptions*" in the name of **Zhen-tao Xu** (Purple Mountain Observatory). These relics of about 1500-1050 BC consist of animal bones and turtle shells inscribed with primitive form of Chinese characters, recording astronomical phenomena. Recently scientists tried to use astronomical records of bone inscriptions to discuss some modern astronomical problems, such as the variation of earth rotation, solar variability,...

An important book of *Chinese records* was presented by Miao fu in the name of **Zhuang Wei Feng** who is director of the Shantou University Library (Shantou Guangdong China).

Discussion

W.T. Sullivan : What fraction of the 10 000 records in your book has never been published ?

Zhuang Weifeng : It is hard to do the comparison because this kind of book has not been published before.

P. Brosche : One can expect report on solar eclipses which were not known so far ; they would be very useful for Earth's Rotation Studies.

Among other old records *Nova Greminorum 1283* was the subject of a poster by **A. Hadravova** (Institute of Classical Studies) and **P. Hadravava** (Astronomical Institute) from Ondrejov (Czech Republic). **V. Protitch-Benisek** and **M. Protitch** (Astronomical Observatory, Belgrade, Yougoslavia) could not attend the meeting with their poster on *Data Revision of Babylonian and Some Arabian Lunar and Solar Eclipse Observations Used in Newcomb's Researches*, a subject close to the poster *Variation of the Earth's Rotation Derived from Japanese Ancient Records of Central Solar Eclipses* (**Han Yanben**, Beijing Astronomical Observatory, P.R. China) and **S. Nakai** (National Astronomical Observatory, Mizusawa, Japan).