



Philosophical Transactions

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XLVII. *Extracts of two Letters from Father Gaubil, of the Society of Jesus, at Peking in China, translated from the French.*

To Dr. Cromwell Mortimer, M. D. Secretary
to the Royal Society,

Peking, Nov. 2, 1752.

Read Nov. 15, 1753. **T**HE chronology of China, which I sent to France in 1749, had been long the object of the researches of the late M. Freret, who did me the honour to ask my sentiments upon the essays, which he sent me. This correspondence continued many years; and that learned man wrote several very curious dissertations upon that subject. I have not seen the last, which must have been published in the eighteenth tome of the *Memoirs of the Academy of Inscriptions & Belles Lettres*. I wrote to several persons detach'd pieces of what came into my thoughts on the subject, as they consulted me upon it. To avoid many inconveniences, I thought proper myself to digest my own rough draughts upon that topic; and accordingly sent the result in three parts to France in 1749.

What I have thus done in chronology, I am desirous of doing with regard to astronomy, or, at least, furnishing materials ranged in order upon that science. For it is necessary to draw up anew, or, at least, to correct, what has been printed in the work, which Mr. Costard has criticized in the *Philos. Transact.* N^o 483, p. 476, 477, & seq. It was not sent from
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hence to France with a view of being printed, but of being examined by men of skill and abilities (a).

I have already sent you the catalogue of some ancient observations. What relates to Jupiter is proper to correct what is remarked by Father Souciet. I have sent either to that Father, or to M. de Lisle, a great number of corrections and additions, which are requisite to be made; and I will soon digest into order what shall appear to me necessary. Mr. Costard will there, I believe, see the solution of his doubts. The Jesuits are much obliged to him for the honour, which he has done them, in saying, that the best memoirs relating to China are owing to them. When he shall have examined what there is of reality with respect to antiquity, and the manner of coming at the knowledge of the ancient history and astronomy, his doubts will vanish.

The Chinese, without being consummate, or even passable astronomers, might be capable of seeing an eclipse, and of making observations on it, and of looking upon the shadow of the gnomon of a sun-dial. The knowledge, which they had from time immemorial of the rectangle triangle, and of its principal properties,

(a) The Chinese texts were written by men, who knew nothing, or almost nothing, of astronomy and antiquity; and there are many faults in the Chinese contexts, and likewise some in the copies of the translations, and in what was added or corrected for the impression. They are only memoirs, which ought to be examined, and digested into a better order, after having taken the proper measures to restore the Chinese texts, which had been alter'd, and to explain the obscure parts by those, which are intelligible; notwithstanding which there will be many Chinese texts still unintelligible.

properties, might easily teach them a thousand curious things in geometry, without knowing the theory of trigonometry.

The Chinese, from time immemorial, knew the passage of the sun in the ecliptic; they knew the stars; they had globes and hemispheres; and, by means of divers practices and precepts, received from their antients, without any great knowlege of spherical trigonometry, might be able upon the globe itself to resolve many problems. We ought to conclude, that our antients were possessed of several kinds of knowlege, received from the patriarchs, and transmitted to the Chinese. Without these kinds of knowlege, and these traditions, by mere observations alone, the Chinese could not perform what they did at first. They never well understood the stations and retrogressions of the planets. Reflections upon the eclipses of the sun and stars taught them antiently, by practice, something of the parallaxes of the moon.

Every thing was almost forgot, about the time of *Tsin chi hoam*, 240 or 246 years before Christ. But it is evident, that, before that time, the Chinese must have known something of the calculations of the eclipses of the moon and sun, and of some equations for reducing the mean motion to the true, and for calculating the solstices.

Mengtse, a classical author, who wrote before the burning of their books, mentions clearly enough part, at least, of what I say. They certainly knew indifferently well the proper motion of the fix'd stars; which was afterwards forgot, for want of examining what was extant written in many books.

I shall say no more upon this subject; but hope, that Mr. Costard, and many other gentlemen in England, France, and elsewhere, will lay aside their doubts or prejudices about the Chinese astronomy and antiquities. It is, indeed, really difficult, to take the just medium between those, who too highly extol, and those who too much despise, the Chinese literature.

I thought, that Father Hallerstein would not have gone so soon to Macao; and when he was obliged to go thither, the plan of Peking, which I order'd to be copied for you, with some explications of it, was not finished. I have now received it, but I cannot send it by the post with this letter; nor can I send it till next year, when I shall have a favourable opportunity for it. I shall then likewise send some other present for your illustrious Society.

On the 15 of August, an ambassador from the king of Portugal arrived at Macao, with presents for the emperor of China. It were to be wish'd, that this embassy might produce some advantage to us; but this is extremely doubtful. The queen-mother of the king of Portugal order'd the ambassador to desire, that Father Hallerstein, whom she personally knew, might come to him to Macao, with a mandarin sent by the emperor. The emperor consented to this without any difficulty, and dispatched the mandarin and Father Hallerstein to the ambassador. He will be here again in May.

I am of opinion, that the reigning emperor will never permit any missionaries in the provinces; and that they will find it very difficult to conceal themselves. But there is no appearance, that we shall be
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sent away from Peking : on the contrary, those, who shall be sent thither, will be well received, if they have but the qualifications requisite.

The observation of Mercury in the Sun in May 1740 is very curious, and does honour to the calculation of Dr. Halley. I had seen that calculation; and doubting that of Manfredi in his Ephemerides from the tables of M. Cassini, I prepared to observe that passage of Mercury here at Peking; but the weather was not favourable. And I see, by the observation made at Cambridge near Boston in New England, that I might have had one at Peking. I hope, that we shall be able to observe the passage of Mercury in May next year. It is of great importance, and we shall endeavour to do it in the best manner; and if we succeed, we shall communicate it to you.

II.

To Monf. de L'Isle of the Royal Academy of Sciences at Paris.

S I R,

Peking, Nov. 18, 1751.

YOU know, that I have, for many years, corresponded with the late famous Monsieur Freret, [Secretary of the Academy of Inscriptions and Belles Lettres] who honoured me with his friendship. Monsieur de Bougainville, his successor, wrote to me last year, and acquainting me with the melancholy news of his death, informed me, that he was just ready to commit to the press a great work of that eminently learned man upon the Chinese chronology. I had seen some essays of it in the Memoirs of the Academy of Inscriptions and Belles Lettres, of which

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he made me a present. I had furnished him with a quantity of memoirs, as I had likewise done to others, both seculars, and those of our own society. I digested into order all that I had collected; and, in 1749, sent a complete treatise on the Chinese chronology, by two different ways, into France. I directed it to M, Freret, and to the Fathers of our society at Paris. It was in three parts. I desired them to communicate it to you, and to Mons. de Mairan. I have had no account of the arrival of that treatise, in which I had labour'd for above two-and-twenty years past. It seem'd to me necessary, on account of the great number of pieces, either printed or manuscript, which were sent hither on that subject. If I find, that my treatise is lost, I can easily digest it into order again, from the rough draught, which I have by me.

Besides many astronomical observations, which I have punctually sent you, I have transmitted to you the treatise of Father Duchamp upon the Indian astronomy, a collection of antient approximations and occultations of the stars and planets, both by each other, and by the moon, and with the moon; which I had collected and made for determining the longitude and latitude of Peking, &c. This year I have sent to Paris, by two different ways, a memoir, which had been desired of me, concerning the isles of *Lequoyo*, or *Licoukicou*, which Kempfer calls *Roukou*. I have directed, that this memoir should be communicated to you. It is a pretty long one. I had an opportunity of being well informed about these isles; but there are many things yet wanting to be known. To this memoir I have added some remarks concerning the longitude of *Namgazaki*, and other places on the south.

louth coast of Japan, and the south coast of Corée, with its distance from Japan, and the island of *Touyuma*, which, in the map of Father du Halde, is called *Touyla Tao*, or the island of *Touyla*. It should be called *Touy Ma*. It is the isle *Tsutsima*. It depends upon Japan. I have spoken here with several Coreans, who have been in that island.

I have already sent to you observations made here to the close of the year 1750, and during this year. I now send you others of 1750; and others I inclosed to you at large in 1749 and 1750. I wait for some answer from you; and especially your opinion concerning the manner, in which I ought to dispose my memoirs concerning the Chinese astronomy. I am resolved to put my last hand to that work. But memoirs of that kind ought to be examined by persons intelligent and zealous like yourself.

At Peterburg you must undoubtedly have seen what I wrote to Mr. Bayer about what the Chinese have said concerning the Huns and Turks. Dr. Mortimer has written to me, that he had received from a nephew of Mons. Fourmont a small piece upon the origin of the Turks and Huns, as drawn from the Chinese books I shall speak again of that subject in the memoirs, which I have of the history of the Great Dynasty of *Tang*. There are a great number of very interesting things upon what the Chinese have delivered at that time concerning the empire of the Persians, and its destruction by the Mahometans; concerning the Mahometans, and the assistance, which they gave to Chinese emperors against their rebels; concerning the Christian religion, or the *Tatfin*, but in very obscure terms; concerning the sects and countries of the

Indians, Japan, Corée, Tartary, and the countries between China and the Caspian Sea, Tybet, and its princes. All these particulars may be of considerable service to unravel the eastern history from the year 500 of Christ to the year 1000 after him, and even much higher. If I have not time to reduce my memoirs into proper order, I will address them to some learned man, like yourself, who can digest them, or see them digested.

It is several years since I received any thing from Father Boudier. He has, undoubtedly, sent every thing to Paris. However, I have a good part of what he did, till 1738, and 1739; and I find, that he is much mistaken with respect to the diameter of the sun, and the obliquity of the ecliptic. I do not know whether the right ascensions of the stars are very exact. He had not then any knowledge of the aberration of the stars. His voyage from Chandernager to Agra, Dheli, Jaepour, is curious. I have the chart with the observations of the latitude and longitude of Fatepour, Agra, Dheli, Jaepour, and Chandernager. I could have wish'd to have had the exact distance from Agra and Dheli to the Ganges.

I have discoursed here with some religious Indians, who have been at Sirnegar, and as far as the sources of the Ganges; but their account is very obscure.

There are here a great number of Lama's and Tartars, who have gone from Lassa, the capital of Thibet, to the lakes and mountains, where the sources of the Ganges are, and at Latac, &c. in the country to the north of Thibet and Latac; but what they say is extremely confused; and this part of geography is still very little known to us here. It would
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be of great use to us, if you are informed of it, and would do me the pleasure of giving me an account of it.

Mr. Hodgson has sent hither, to the two German Fathers, his theory and tables of the satellites of Jupiter. There are a great number of observations made at Peking; many of which are not certain, nor proper for the forming of tables. The catalogue of the longitudes and latitudes of places is very erroneous. He will undoubtedly correct them. However, the work itself is a very good and useful one. Yourself and the other astronomers are able to judge of it much better than I can here.

The *Memoires de Trevoux* speak in a manner, which, they say, they had learned from you, concerning the rotation of the axis of the earth, and the consequences, which Dr. Bradley draws from it. It is a discovery worthy a man of his profound sagacity; but will render it necessary to make a vast number of new calculations.