From the Correspondence of the Astronomer and Calendar Maker Gottfried Kirch (1693–1706)

Abstract

In his correspondence, astronomer and calendar maker Gottfried Kirch (1639–1710) mentions his second wife, Maria Margaretha Kirch (née Winckelmann, later called "Kirchin," 1670–1720), as a helper (along with his children) in making astronomical observations. Starting in her early youth, Maria Margaretha was educated by her father, Christoph Arnold (1650–1695), a Lutheran theologian and astronomer who worked as a farmer near Leipzig. Through Arnold, Maria Margaretha met Gottfried Kirch, whom she married in 1692. In the years that followed, the couple worked together on astronomical observations, ephemerides, and calendars for Prince Elector Frederick III of Brandenburg (1657–1713). In 1700, Gottfried Kirch was appointed the first royal astronomer in Berlin. Maria Margaretha worked as her husband's assistant in the Prussian Academy of Sciences (women were not allowed as official members of the academy). She also made independent astronomical observations, and in April 1702 she discovered the "Comet of 1702" (C/1702 H1).

Source

To Adam Adamandus Kochanski
Guben, June 27/July 7, 1694

Guben, June 28, 1694

Thank you for the kind offer.

The new [star] in Serpentarius [Ophiuchus] [is] still as small as in fall 1693.

The 1693 Ephemeris has not been printed, only the planets' rising and setting times [have been printed], but I did not want to send it to you because they [the times] have already passed.

As you, in the meantime, have not received the 1694 Neubarth Calendar from Breslau, I want to send you my copy, or at least a copy of the micrometer description so that the postage does not get too high.

The most recent solar eclipse on Tuesday, June 22, which (according to calculations) should not have reached this location, was indeed visible here, though very small. At 5:30, the sun was still very clear. At 5:41, however, we already saw a goodly piece darkened when the sun was obscured behind a cloud. At 6:12, the eclipse was still noticeable, and at 6:13 the sun was completely clear again. Thus, from first appearance to the end, we certainly saw the eclipse for thirty-one minutes. And because a goodly piece of the moon was clearly visible on the sun when we saw the eclipse for the first time, the eclipse may already have begun half of a quarter-hour before. However, it is not known exactly. And even if we had had clear weather right from the beginning, it is known that with such small eclipses it can take a while before the precise beginning is assured. I cannot say anything certain about the size, because the place where I observed [the eclipse] and the unsettled weather precluded the use of the micrometer. However, it seemed to me that it did not reach an inch. In the future (God willing) it will be possible

to calculate the size rather exactly with the help of the estimated beginning and the precisely observed end.

In that way, the time could be corrected; after the eclipse had ended, I measured the sun's position as follows:

[…]

Most worthy, very learned, especially most honorable sir, and very great benefactor and sponsor!

For the especially great goodwill that your most worthy personage bears toward my humble self and affirms in many ways, especially also in your recent letter of May 20, which you deigned to send to me and which I received on June 3, I cannot give enough thanks. May God grant success to the efforts of your most worthy personage to promote the acceptance and advancement of astronomy, and gladden me, your servant, with that which you hope to work out in my favor. If God bestows assistance so that I do not have to provide for myself and my family in some other way, I hope, with God's help, to serve the world with my small contribution granted by God, and I hope that people will take pleasure in it. And if something beneficial in astronomy is discovered or brought about by my humble self, the world, and God, then I will have no one else to ascribe it to but your most worthy personage, most honorable benefactor and sponsor of such arts. However, as I lack the means, I cannot accomplish anything of any importance on my own.

I am also ready and willing to follow the rule and leadership of your most worthy personage, in how and what you order, to the extent of my powers. The new star in Serpentarius is not yet growing. The 1693 Ephemeris is not printed, only the rise and setting of its planets. However, I did not want to send them to save unnecessary postage, because the time has passed. In the meantime, you will, I hope, have received the Neubarth Calendar from Breslau; if that is not the case, then I will have the readings of the micrometer copied and sent to your most worthy personage.

I would have written again sooner, but I was first waiting for the small solar eclipse and finally also for the lunar eclipse. What we observed here is enclosed; my wife (who extends her most respectful greetings to your most worthy personage) copied them. She truly likes astronomy, and is a great helper to me in this, as in other things. May God grant that everything turns out well and keep your most worthy personage in good health for long years to come. I remain as ever

Gottfried Kirch
Guben, July 7, 1694

[…]

To Johann Philipp Wurzelbaur
Berlin, December 1, 1706

Very noble, especially most honorable sir, great benefactor.

After Privy Councilor and Archivist [Johann Jakob] Chuno, my great patron, returned home, I asked him right away about the affairs of my most honorable sir. However, he knew nothing about it; nevertheless, he promised to ask about it at court. I was with him in the archives a few days ago, and he showed me the observations of my most honorable sir, both written and printed, which were sent to him in the archive from the court to show that His Royal Majesty had received and seen them. The highly renowned privy councilor was also of the opinion that the answer had already been given: But if something different should be the case, my most honorable sir could ask

Baron von Reichenbach and request that he inquire about an answer at court. Otherwise, I cannot find out whether anything regarding this matter has arrived at the Royal Society. However, I received the esteemed letter of my most honorable sir, dated July 24 of this year, and a copy of the commemorated, very assiduously described eclipse on August 10, as I reported in a letter to my most honorable sir on October 12, for which I once again give heartfelt thanks. The secretary had had these observations in his possession for several days, and I had sent, or even delivered, them to the highly regarded court councilor and a number of other gentlemen, as they had been very pleasant. For now, I am enclosing for my most honorable sir my poorly described observations of the most recent moon eclipse: I wish that I had performed them with good instruments. But nothing could be acquired yet because the inside of the observatory is not yet built such that things of that sort could be installed and kept safe. For that reason, I made my observations in my home as well as I could. For although I otherwise had poor accommodations, I was alone. I made my observations on a platform above my study through a 10-shoe tube with my micrometer, my wife [Maria Winckelmann Kirch] immediately wrote the micrometer readings on a tablet, and my small son, Christfried, who is twelve years old, noted, after the sign was given, the time in minutes and seconds in the room below where the pendulum clock was located. I do hope that it is good enough. I do not know what Mr. [Johann Heinrich] Hoffmann (who is equipped with good instruments from Mr. von Crosieck [Bernhard Friedrich Baron von Krosigk]) observed at the same observatory because I have not yet gotten to see his observations, and I will probably not get to see them until they are published. Otherwise, I would have gladly sent them, too.

[....]

Source: Gottfried Kirch, *Die Korrespondenz des Astronomen und Kalendermachers Gottfried Kirch: (1639–1710)*; in three volumes, edited and revised by Klaus-Dieter Herbst. Jena: IKS Garamond, 2006, pp. 190–91, 193–94.

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