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Friedrich Zöllner's correspondence with Wilhelm Foerster

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Friedrich Zöllner's correspondence with Wilhelm Foerster

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Abstract

Thirty one letters by Karl Friedrich Zöllner to Wilhelm Foerster have survived, being probably nearly all that have been written by Zöllner. Most of Foerster's letters have been lost, with the exception of one preserved in original and some published (at least in parts) in 1899. An overview of the relations of Zöllner and Foerster and of their correspondence is given, and some quotes from Zöllner's letters are presented. These give new insights into Zöllner's scientific and private life.

11.1 Zöllner's friend and correspondent Wilhelm Foerster

Wilhelm Foerster was born on December 16, 1832 in the Silesian town of Grünberg, so that he was almost two years older than Zöllner. His way into

astronomy was more rapid and straight in comparison to Zöllner's. Foerster studied first at Berlin, but after three semesters he left for Bonn, where — under the direction of Argelander — he graduated with a dissertation on the geographical latitude of Bonn Observatory. In 1855 Foerster became second and in 1860 first assistant at Berlin Observatory. When Foerster received his first employment, he was six years younger than Zöllner was in 1863, when he came to Leipzig Observatory. Foerster remained nearly 50 years at the Berlin Observatory, where he became the director in 1865. In contrast to Zöllner, he rendered outstanding services to the organization of science rather than to scientific research — not only in astronomy, but also in geodesy, metrology and in some other fields.

11.2 History of transmission and reception of the correspondence

Zöllner was the first who cited from his correspondence with Foerster and others in his publications, namely in vols. 1 and 4 of his *Wissenschaftliche Abhandlungen*. Later his first biographer Koerber judged about this praxis [7, p. 100]¹:

Dass er hierbei viele, vertrauliche Privatbriefe, zum Teil ohne die Genehmigung ihrer Verfasser nachzusuchen, veröffentlichen zu müssen glaubte, bleibt allerdings bedauerlich.

However, in the case of Foerster, Zöllner published only a letter by himself, which has also been preserved in original.

Obviously, Koerber, for his biography of Zöllner published in 1899, had access to the complete correspondence (both Foerster's letters from the *nachlass* of Zöllner, and the letters by Zöllner which Foerster had kept). Koerber gave extended citations from these, and this way some of Foerster's letters, the originals of which are now missing, have been transmitted to us. However, a comparison of the citations with the existing originals shows that Koerber was not very careful with the transcription and also tacitly omitted some parts. This way he also rendered anonymous the fierce accusations to the address of Wiedemann appearing in a later letter to Foerster.

Besides the examples published by Koerber only one of Foerster's letters has been preserved in original form (see the previous paper).

Zöllner's letters to Foerster are today kept at Leipzig, among the papers (*nachlass*) of Eugen Mogk, professor of ethnic studies². The way of

¹That he believed to have to publish many confidential letters, partly without asking the permission of their author, remains regrettable

²Not Moog, as indicated in [4]

[illegible]

Figure 11.1: Facsimile of Zöllner's letter to Wilhelm Foerster, August 20, 1869. Courtesy Universitätsbibliothek Leipzig, Handschriftenabteilung

the letters into this *nachlass* cannot completely be followed. However, one fact may be stated with great evidence: until the 1930s these letters were located at Treptow Observatory in Berlin (today Archenhold Observatory). This is indicated by typical numbers on the letters, as can be seen in Fig. 11.1. Such numbers can be found also on other letters from Foerster's *nachlass* at other archives [1], on letters from Archenhold's *nachlass* and also in books of the Archenhold Observatory library. Archenhold owned a collection of autographs, and he obviously numbered the documents therein. The collection comprised also parts of Wilhelm Foerster's papers, who had given a significant part of his correspondence to Archenhold, when he was still alive. Today the fragments of Archenhold's collection are spread over a variety of archives, and some parts are in private hands. In several archives evidence may be found that Karl von Hohenlocher sold such letters from Archenhold's collection around 1941 [1]. Hohenlocher, writer and art historian, earned his living at that time as an antiquarian, since he had been imposed a ban on writing in Nazi Germany.

It is not known what happened to the collection of autographs after the expulsion of the Jewish Archenhold family from Treptow Observatory. Presumably, the Archenholds took the collection with them, as well as they were allowed to take with them several books. Adolph Kunert remembers the removal of these books, which later appeared on the market. Some years ago he asked Günter Archenhold about this and learned, that the books were not allowed to be taken to England, but that it was possible to sell them in Germany³. A similar thing could have happened to the collection of autographs.

Which interest Eugen Mogk has had in Zöllner's letters, is also not known to us. Maybe, he collected autographs of Leipzig scholars. Mogk died in 1939, so the letters must have come in his possession not later than in that year. However, the head of the department of manuscripts does not exclude that the letters were later wrongly sorted into Mogk's *nachlass*⁴.

In 1974 Zöllner's letters to Foerster have been mentioned for the first time in a publication [11]. However, there are not 33 letters by Zöllner to Foerster as indicated, but only 31, two letters were addressed to other persons (see Section 11.4). At the same time, D.B. Herrmann cited from these letters in connection with Vogel and plans for the Potsdam Astrophysical Observatory [4]. No further use has been made from these letters. Therefore, in the following some summaries and citations will be presented. Further citations, relating to Leipzig astronomers, are given in the subsequent contribution by G. Münzel.

³Personal communication by A. Kunert to W.R. Dick of 22. 3. 1997

⁴Letter by Steffen Hoffmann to W.R. Dick of 21. 3. 1997

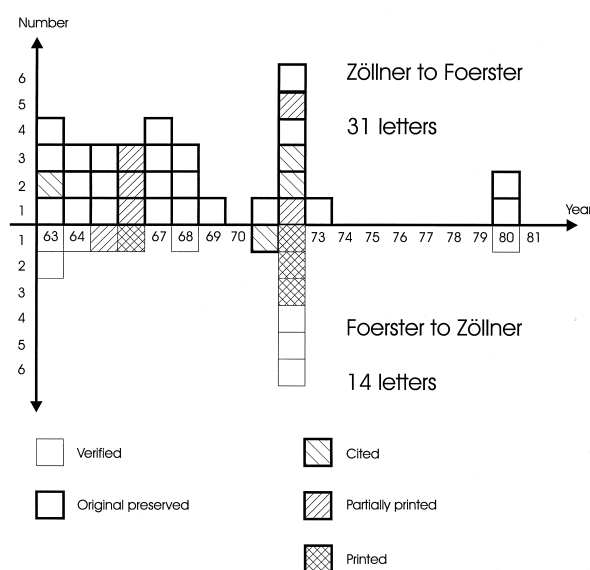


Figure 11.2: Overview of the correspondence of Zöllner and Foerster

11.3 Excerpts from the letters

Figure 11.2 gives an overview of the complete correspondence of Zöllner to Foerster, which lasted from 1863 to 1880. From the 14 letters by Foerster which could be verified, only one has been preserved in original, further four to five were published by . Surely, Foerster had written more letters, since more than twice that number of Zöllner's letters survived.

The correspondence started with a letter by Foerster, who obviously asked Zöllner for advice or assessment about a student's work on optical illusions. Zöllner praises the diligent work, but criticises its content and refers to his own experiments and measurements.

In the next letter Foerster offered a regular correspondence, to which Zöllner keenly agreed. Starting from the third letter Foerster and Zöllner said *du* to each other (i.e. they used the familiar form of address), what was a much more rare practice at that time in Germany than it is nowadays. Generally the tone of their letters became quickly rather warm. Zöllner mostly called his friend *Liebster Förster*, later *Liebster Freund* or *Theuerster Freund*. Foerster also called his correspondent *Liebster Freund*, one time *Mein geliebtes Zöllnerchen*.

In the summer of 1863 the Astronomische Gesellschaft was founded and Zöllner was elected its first treasurer. Therefore, several of the early letters discuss financial matters of the society, and Zöllner expresses himself rather enthusiastically about its development:

Mit unserer Gesellschaft geht's ja recht gut!⁵

he writes in October 1863, and one month later:

⁵Our society is doing fine!

Du siehst unsere Gesellschaft erfreut sich der allgemeinsten Theilnahme und bei so opferbereiten Mitgliedern, deren Anzahl ja noch wachsen wird, ist der Gesellschaft gewiß eine frohe und ruhmreiche Zukunft zu prognostiren.⁶

Zöllner held the treasurer's duty only during one term of office (until 1865) and acted then until 1873 as administrator of the society's library situated at Leipzig [10, p. 11]. However, after 1875 he kept away from the society.

From three letters of 1863 it follows that Zöllner obviously made calculations in celestial mechanics for the *Berliner Astronomisches Jahrbuch*. The biographies of Zöllner do not mention this. He calculated coordinates of Venus as well as an ephemeris for Polyhymnia (the minor planet No. 33), but complains of his ponderousness in calculations. The ephemeris of Polyhymnia showed then an offset to the previous one, which Foerster attributed to a small calculation error, though Zöllner ascribed the differences to objective reasons. After that such works in classical astronomy are not mentioned any more.

With only minor exceptions, all letters from 1865 to 1871 deal with Zöllner's photometric works. On March 20, 1868 Zöllner wrote to his friend about the comparison of his measurements of the albedo of Mercury and of the Moon:

Ich hoffe mit Bestimmtheit nachweisen zu können, namentlich wenn ich noch einige Merkurbeobachtungen erhalten habe, daß Mercur eine analoge Oberflächenbeschaffenheit wie der Mond besitzt, vor allem einer wolkentragenden Atmosphäre entbehrt.⁷

Later Zöllner published this thesis in the fourth volume of his collected works (cf. [6], p. 29). From today's point of view, this was a correct result. However, one should be very careful when comparing this result with modern knowledge. Picking out from Zöllner's bold conclusions, which he had drawn from his observations, just those, which agree more or less by chance with findings of later times, one may easily get a distorted picture. Crucial for the historical assessment is, how convincing and, as a result, how influential the theories were at that time. In 1900 Gustav Müller still judged about Zöllner's *Photometrische Untersuchungen* of 1865 [9, p. 5].:

[...] manche Schlüsse, namentlich in Betreff der Albedo der Planeten, sind allzu kühn, sie entbehren der sicheren Begründ-

⁶You see that our society enjoys broadest participation and, with so many contributing members whose number will increase, a happy and famous future can be prognosed for our Society

⁷I hope to be able to show with certainty, namely when I have obtained some more observations of Mercurius, that Mercurius has a surface structure analogous to the Moon, in the first place the absence of an atmosphere with clouds

ung and haben sich im Laufe der Zeit nicht aufrecht halten lassen.⁸

Occasionally, Zöllner asked a favor of Foerster, e.g., to help providing literature. In turn, Zöllner advised Foerster on astrophysical questions, e.g., on the purchase of an ocular spectroscope for the Berlin Observatory (letter of 12.6.1871).

Matters of appointment were discussed twice. It follows from the letters, that Zöllner did not turn down himself (as has been assumed so far) when he negotiated in 1866 with Otto Struve concerning an appointment at Wilna. In fact, he wrote to Foerster (letter of 24.6.1866):

Die Wilnaer Aussichten sind nun auch zu Wasser geworden, indem Smyslow zum Director gewählt worden ist.⁹

The invitation to Pulkovo by Otto Struve two years later, was presumably arranged by Zöllner himself with the help of Foerster. On the one hand he really considered to go there, but on the other hand he thought about using the call to improve his position at Leipzig (letter of 26.2.1868). The respective letter to Foerster, in which Zöllner asked whether Foerster could write to Struve in favour of him, dates of February 1868. The call from Pulkovo came in May, and, as it is well known, Zöllner used it with success [5; 6, p. 31ff.]. Whether Foerster indeed helped Zöllner with that plan, may perhaps be found out with the help of the Struve papers kept at St. Petersburg.

The correspondence reached a culminating point in 1872 after the publication of Zöllner's polemic book *Über die Natur der Cometen*. Several letters of that year may be read in Koerber's book. One of Zöllner's letters, which was written in an exceptionally sharp tone, and which was not published by Koerber (letter of 20.7.1872), is extensively cited in G. Münzel's contribution in Chapter 12. At the end of this letter Zöllner mounted to the exclamation:

Ich habe mit vollem Bewußtsein von der Tragweite und Bedeutung des aufgenommenen Kampfes entschlossen das Beste eingesetzt, was ich in mir vorfand, und trage heute mehr denn je die hohe Überzeugung in mir, daß der Sieg auf meiner Seite sein wird!¹⁰

However, Foerster's disapproval of the polemics depressed Zöllner, and in the next letter he begged, reminding about holidays they had spent together:

⁸some conclusions, namely concerning the albedo of planets, are too speculative, they lack sound reasoning and could not be maintained over the course of time

⁹Hopes for Wilna (Vilnius) are shattered now, since Smyslow was elected Director

¹⁰I have employed my best efforts fully aware of the consequences and significance of the battle, and I am convinced today more than ever that victory will be on my side

Laß also die Eistrinde, mit welcher sich Dein Herz mir gegenüber zu bekleiden im Begriffe steht, wieder schmelzen und betrachte die Photographien von Aussee, um den verblaßten Bildern der Stegerwirthischen Gracien im Reigentanz mit Deinem alten Freunde wieder neues Leben zu verleihen.¹¹

Such poetic pictures appear in several letters and form a noticeable contrast to the irreconcilable attacks on colleagues and even on friends. Later, Foerster also remembered in his autobiography about the common stay at Aussee, a spa in Austria, in the summer of 1869:

Es war nun eine außerordentliche Lebensfreude, damals auf den Höhen der steyrischen Berge zu weilen mit diesem Manne [...]¹²

[2, p. 96].

Already starting from the second letter, Zöllner's writings contain remarks about family and private problems.

Gegen Berlin habe ich eine gründliche Abneigung, wozu jedenfalls sehr viel trübe and schmerzliche Erlebnisse in der eigenen Familie beigetragen haben¹³

he writes in May 1863. Zöllner compares this with the happy times at Basel, where he

auf Spaziergängen im Ideenaustausch mit Wiedemann (größtentheils über physikalische Dinge) so glückliche Stunden verlebte.¹⁴

This is in accordance with other statements we know from his biographies. But nothing was known so far about Zöllner's relation to a young woman. In the summer of 1867, after he had already broken off the relationship, he reported to Foerster about it. Foerster's engagement at the beginning of the next year put him again in mind of it:

Ich habe nie daran gezweifelt, daß Du nach Maßgabe Deiner so glücklich und harmonisch angelegten Natur die ganze Fülle seliger Empfindungen genießen würdest, welche das brautliche

¹¹Let the ice, with which your heart has begun to cover itself towards me, melt again and look at the picture of Aussee, to revive the faded images of the Stegerwirthischen Gracien dancing with your old friend

¹²It was an extraordinary pleasure to be with this man on the heights of the Steyerian mountains

¹³Towards Berlin I have a strong dislike, to which many sad and painful experiences in my family have contributed

¹⁴I have spent such happy hours during walks, exchanging ideas with Wiedemann (mainly on matters of physics)

Verhältniß mit sich bringt. — Mir war es anders beschieden und wenn ich ein Jahr zurückdenke an die Zeiten tiefer Erniedrigung und bitterer Selbstpein, so sind diese Erinnerungen mit dem Gedanken an das arme Mädchen hinreichend, für immer einen dunklen Schatten auf ein Verhältniß zu werfen, welches für Andere die Quelle reinsten und höchsten Glückes ist. Dennoch halte ich alle diese Erfahrungen für ein geringeres Unglück, als wenn das Verhältniß einen normalen Abschluß erlangt hätte und jene tiefste Verstimmung erst später eingetreten wäre.¹⁵

(Letter of 26. 2. 1868). This may seem to be not important in comparison to the scientific content of the letters. However, Zöllner's biography, and mainly his irreconcilable attacks on colleagues, cannot be understood with rational categorics alone. There are rather psychological reasons hidden behind his behaviour — reasons which were suspected already by his contemporaries — but could not be interpreted at the level of knowledge of that time. The discussion in the 19th century concentrated only on the question whether Zöllner was clearly disturbed or not. The phenomenon can, of course, not be understood in this simplistic way. A certain attempt at a psychological explanation has been made by Meinel [8, p. 51], who speaks about Zöllner as an emotionally wounded person. Many of Zöllner's reactions indeed manifest a narcissism (and this should not be understood as a judgment, but as a description), which made him especially sensitive for insults. It would surely be helpful, if a psychologist or a psychiatrist with an interest in history could take care of Zöllner's biography, and in this context his remarks on private matters would be very important.

The correspondence shows considerable gaps around 1870 and especially after 1872. However, one cannot be sure, whether these are gaps in the transmission or gaps in the correspondence itself. It seems, that the second explanation is rather the case. There are several indications for this:

1. Zöllner and Foerster regularly met in Berlin, Leipzig or occasionally at other places, so that letters were often unnecessary.
2. The whole correspondence is not very systematic, partly due to the frequent personal meetings, partly due to the different scientific in-

¹⁵I have never doubted that, in line with your happy and harmonic nature, you would enjoy the full range of happiness that comes with a marital relation. — For me it turned out differently, and when I think backwards one year to the times of deep humiliation and self-doubt, then my memories and thoughts of the poor girl suffice to cast a dark shadow on a relation, which for other people is the source of the purest and highest happiness. Nevertheless, I consider these experiences as a lesser unhappiness as when the relation would have come to a normal end, where these feelings would have occurred only later

terests; apart from the year 1872 most of the letters stand alone, without referring to previous ones.

3. Koerber did not cite any of Zöllner's letters that have not survived.
4. None of Zöllner's letters refers to any other letter that have not survived (of course, besides Foerster's replies).
5. Archenhold's numbers on the letters show only one single gap between the years 1873 and 1880 (see Sect. 11.4); possibly, one single letter from that time has been lost.
6. Zöllner's correspondence with Otto Struve is also full of gaps during the respective period of time [5].
7. In the two letters of 1880 (20 October, respectively 16 November) Zöllner wrote:

Erst jetzt merke ich, daß wir uns seit der Anwesenheit meiner Mutter in Leipzig so selten sehen, daß ein *Rendez-vous* [...] dringend erwünscht erscheint.¹⁶

Wie sehr würde ich mich freuen, Dich einmal nach so langer Zeit wieder im Kreise Deiner lieben Familie wieder zu sehen!¹⁷

After the incisive year of 1872 the relation of Foerster and Zöllner had obviously cooled off. In his last three letters Zöllner did not mention his own works at all. In addition, Zöllner did not longer need to travel to Berlin after his mother moved to live with him in Leipzig (1878), so that he could meet Foerster only rarely. Thirty years later, Foerster [2, p. 98] wrote in his autobiography about this last phase of Zöllner's life:

Schließlich lebte er mit seiner alten Mutter, die ihre übrigen Kinder in Irrsinn hatte versinken sehen, in schmerzlicher Isolierung und beschränkte seine wissenschaftliche Tätigkeit fast ganz auf die Vorlesungen an der Universität Leipzig.¹⁸

However, there is one indication, that more letters may have existed. Wilhelm Foerster wrote in his autobiography concerning Zöllner's spiritualist activities:

¹⁶It is only now that I realise that, since the presence of my mother in Leipzig, we see each other so rarely, that a *rendez-vous* [...] seems to be most desirable

¹⁷How much would I enjoy to see you again amidst your family after such a long time!

¹⁸Finally, he lived in painful isolation with his old mother, who had seen her other children turning into madness, and he restricted his scientific work almost completely to his lectures at Leipzig University

Zöllners letzte Lebensjahre, in denen ich mit treuem Briefwechsel alles tat, was ich zur Klärung and Beruhigung der abergläubischen Einbildungen beitragen konnte, wurden durch diese Irrungen aufs schmerzlichste getrübt.¹⁹

[2, p. 98]. But Zöllner's spiritualist phase started only around 1875, and there are no letters from that time. Either Foerster was wrong here, having in mind the intensive correspondence of 1872, when he tried to calm down, but then not on account of superstitious (*abergläubischer*), but other imaginations of Zöllner. Or there was indeed a correspondence about spiritualism, and Foerster did not keep these letters or has destroyed them consciously. In this case he could also have prevented Koerber from citing letters from that time: the biography of Zöllner quotes from the year 1878 only letters by Vogel, Otto Struve and others, who had expressed themselves about the first volume of the *Wissenschaftliche Abhandlungen* and its spiritualist content. But why Foerster should have suppressed this part of the correspondence, remains not clear in this case. On the other hand, it would be surprising if Foerster would not have commented about this work. But this might have been done verbally and not in written form. Anyway, at the present level of knowledge it cannot be decided, whether there had been more letters by Zöllner to Foerster.

We would like to conclude with a humoristic citation from a letter of 1869 (see Fig. 11.1), in which Zöllner calls to his friend:

Schaffe mir nur einmal helles Wetter! Aber die Sonne schämt sich wahrscheinlich, ihr gegenwärtig gerade sehr fleckenreiches Antlitz ihren irdischen Verehrern auf längere Zeit zu enthüllen.²⁰

11.4 Overview of the Zöllner/Foerster correspondence

Only Zöllner's letters are numbered. All of these are kept at the Universitätsbibliothek Leipzig, Handschriftenabteilung, Nachlaß 246 (Eugen Mogk), 2.1.7.2. After the running number the "Archenhold number" (in parantheses) and the date are given, in appropriate cases indicating a print (P), partial print (PP) or a citation (Cit). Naturally, there is no clear dividing line between citations and partial prints, so that the classification is rather arbitrary. F = Foerster, Z = Zöllner.

¹⁹Zöllner's last years — during which I did everything possible with my loyal correspondence for clearance and relief of the superstitious imaginations — were painfully saddened by these mistakes

²⁰Give me clear weather! But the sun is probably ashamed to show her current spotted face for a long time to its earthly admirers

1. F to Z, before 4.3.1863. Mentioned in Z's letter of 4.3.1863
2. (3892) 4.3.1863
F to Z, between 4.3. and 8.5.1863. Mentioned in Z's letter of 8.3.1863
3. (3893) 8.5.1863. Cit: [7, p. 40–41; 4, 255]
4. (3894) 26.10.1863
5. (3895) 25.11.1863
F to Z, beginning of 1864. Existence is not sure, but probably according to the contents of Z's letter of 7.2.1864.
6. (3896) 7.2.1864
7. (3897) 6.7.1864
8. (3899) 9.12.1864
9. (3900) 10.2.1865
F to Z, [early August ?] 1865. PP (P?): [7, p. 35]
10. (3901) 11.8.1865
11. (3902) 13.11.1865
12. (3903) 28.1.1866. PP: [7, p. 37]
13. (3904) 2.3.1866. PP: [7, p. 36]
F to Z, 4.3.1866. P (PP): [7, p. 36]
14. (3905) 24.6.1866. PP: [7, p. 38]
15. (3906) 2.6.1867
16. (3907) 13.6.1867
17. (3908) 28.6.1867
18. (3909) 26.7.1867
19. (3910) 11.1.1868
F to Z, 17.2.1868. Mentioned in Z's letter of 26.2.1868
20. (3911) 26.2.1868
21. (3912) 20.3.1868

22. (3913) 20.8.1869
F to Z, 6.6.1871. Location: Staatsbibliothek zu Berlin, Slg. Darmstaedter J 1881 (12) W. Foerster Bl. 51–52. With Zöllner’s remark “Beantw. d. 12. Juni 71”. Cit: [6, p. 71; 8, p. 15]. See also Section 11.1
23. (3914) 12.6.1871
F to Z, 19.3.1872. P (PP?): [7, p. 52]
24. (3915) 20.3.1872. PP: Zöllner (1878, p. 717), [13, p. 807]; PP (nearly complete): [7, p. 52–54]; Cit (wrongly duplicating some lines): [3, p. 5]
F to Z, 21.3.1872. P (?): [7, p. 54–55]
25. (3916) 11.7.1872. Cit: [4, p. 255]
F to Z, 11.7.1872. P (?): [7, p. 66]. Parts cited in Z’s letter of 20.7.1872.
26. (3917) 14.7.1872. Cit: [4, p. 255]
F to Z, between 14. and 20. Juli 1872. Existence follows from Z’s letter of 20.7.1872 (indirect reference)
27. (3918) 20.7.1872
F to Z, between 20 and 23.7.1872. Mentioned in Z’s letter of 23.7.1872.
28. (3919) 23.7.1872. PP: [7, p. 66–67]
F to Z, between 23.7. and 15.8.1872. Mentioned in Z’s letter of 15.8.1872.
29. (3920) 15.8.1872
30. (3921) 16.12.1873
31. (3923) 20.10.1880
F to Z, between 20.10. and 16.11.1880. Mentioned in Z’s letter of 16.11.1880
32. (3924) 16.11.1880

Among Zöllner’s letters to Foerster the following two letters to third persons are kept:

1. (3898) 14.10.1864, to an astronomer (professor), who visited Berlin and had written from Dresden. The “Archenhold number” fits into the line of Zöllner’s letters to Foerster. Possibly, Foerster had obtained this letter, because the addressee visited him (Zöllner asked for giving his regards to Foerster and others).

2. (73) 15.4.1868, to C. A. F. Peters (Editor of *AN*), regarding Zöllner's article *Ueber Farbenbestimmung der Gestirne*, *AN* 71 (1868) No. 1701, Sp. 321–332.

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