

MÜNECCİM PETERZ'İN 28 TEMMUZ 1851 TARİHLİ GÜNEŞ TUTULMASI İÇİN HAZIRLADIĞI OSMANLICA HARİTA

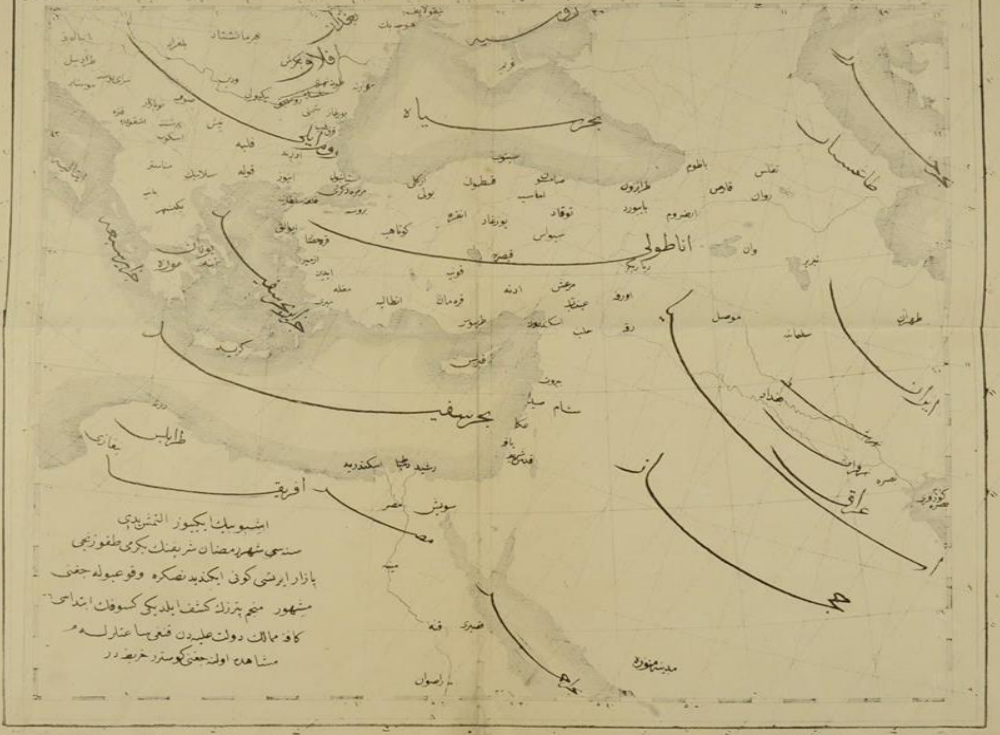


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ساعت نرد

ساعت لارنا



این شهر است بکوز التشریف
 سنسی شهر رمضان نزدیک بکری طغوزنی
 بازار ارضی کوی یکدیگر نکره وقوعه جغی
 مشهور نیم بزرگ کشتا بلد یکی کسوفان اندام
 کاف ممالک دولت علردن قوسا عتزل در
 مشاهده اولد جغی کوسمزد خرید در

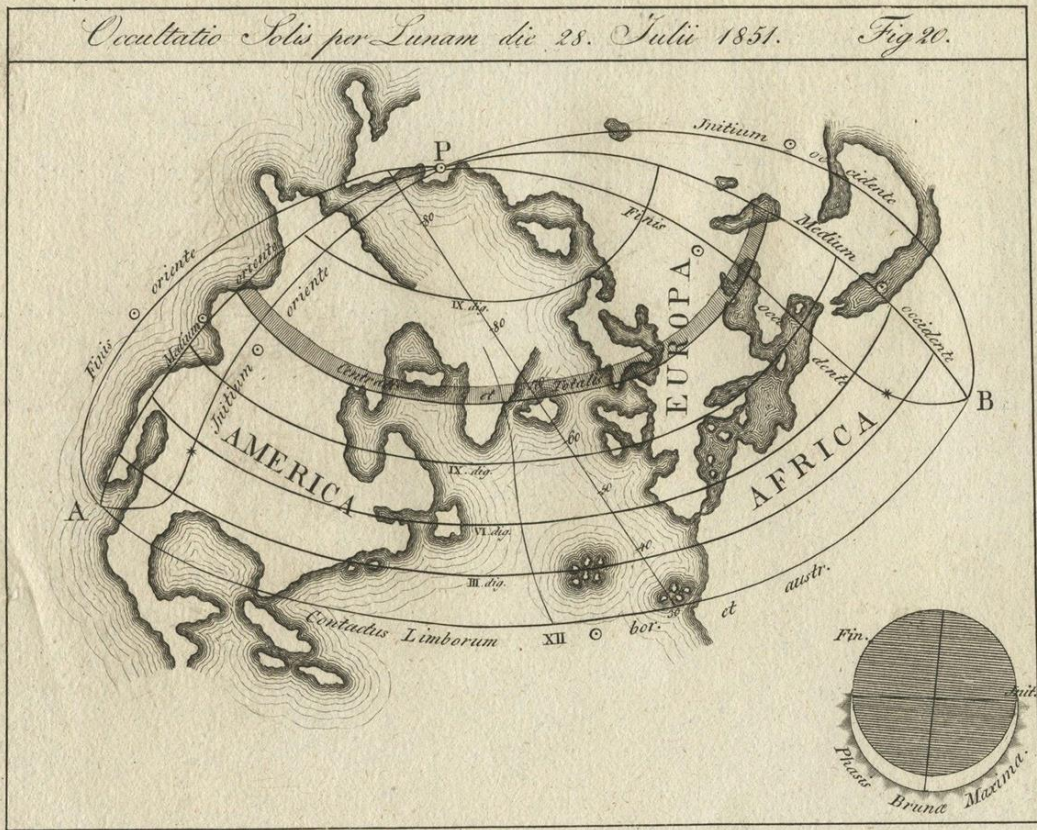
اشبوسيك ايكيوز التمشيدي
سنه سي شهر رمضان شريفك بكرمي طغوزنجي
پازار ايرتشي كوني ايكندبد نصكره وقوعبوله جفتي
مشهور منيم پترزك كشف ابلديكي كسوفك ابتداسي
كاف مالك دولت عليه دن فغني ساعتلر دم
مشاهده اولنه جفتي كوسترر خريطه در

‘İş bu ikiyüz altmış yedi senesi, şehr-i Ramazan-i şerifin yirmi dokuzuncu Pazartesi günü ikindiden sonra vuku bulacağını meşhur müneccim Peters’in keşf ile ki kusufun ibtidası kafat-i memalik Devlet-i Aliyeden hangi saatleriyle müşahadet olacağı gösterir haritadır.’

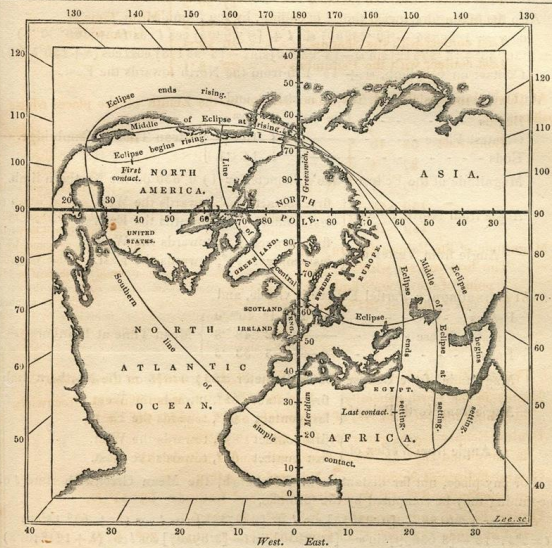


Christian Heinrich Friedrich Peters

Occultatio Solis per Lunam die 28. Julii 1851. Fig 20.



PATH OF THE MOON'S SHADOW AND PENUMBRA UPON THE SURFACE OF THE EARTH, DURING THE TOTAL ECLIPSE OF THE SUN, JULY 28, 1851.



At GREENWICH a Partial Eclipse is visible, and
 Begins - - - - - July 28^d 2^h 3^m ·3
 Greatest Phase - - - - - 3 11 ·6 } Mean Time at Greenwich.
 Ends - - - - - 4 15 ·2

Magnitude of the Eclipse (Sun's diameter=1) 0 ·815 on the Northern limb.

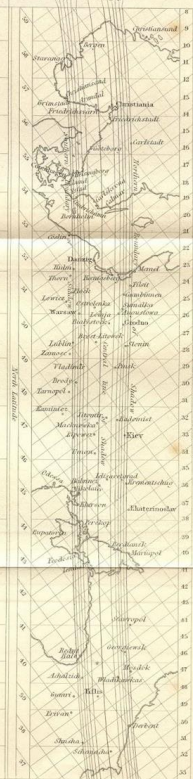
Angle from North Pole of { first contact 63°, towards the West.
 { last contact 93°, towards the East.

Angle from Vertex of { first contact 93°, towards the West.
 { last contact 52°, towards the East.

For any place, not far distant from Greenwich, whose North latitude is l , and East longitude λ , the Mean Greenwich time t of beginning may be computed by the formulæ,

Total Eclipse of the Sun, 1851, July 28.

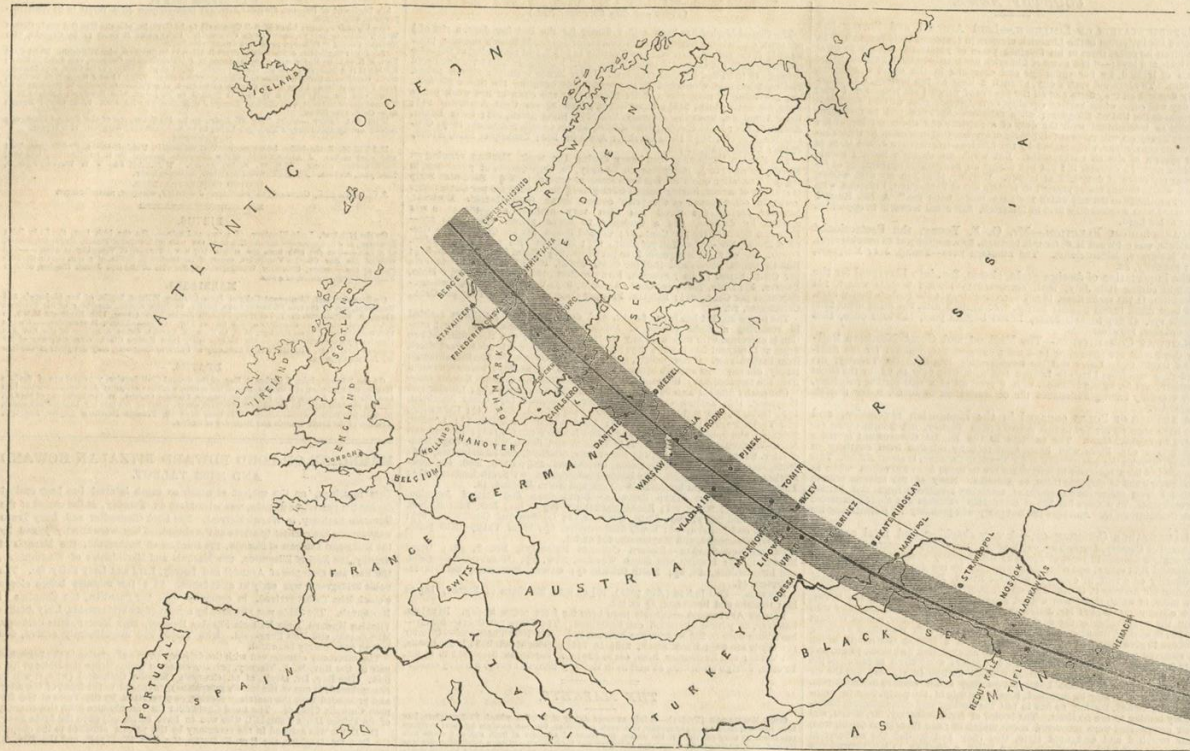
1	2	3	4	5	6	7	8
Local Time from Sun's upper point observation towards the West	Angle from Sun's upper point towards the West	Local Time of total observation on the Sun's shadow	Angle from Sun's upper point towards the East	Duration of total darkness on the central line of shadow	Angle from Sun's upper point towards the West	Local Time from Sun's upper point towards the East	Angle from Sun's upper point towards the East
<i>h m</i>	<i>o</i>	<i>h m</i>	<i>o</i>	<i>m s</i>	<i>o</i>	<i>h m</i>	<i>o</i>
2 17	98	3 21	78				
2 50	100	3 33	76				
2 42	102	3 45	75				
2 55	104	3 57	73				
3 8	107	4 4	71				
3 21	109	4 22	69				
3 34	111	4 33	67				
3 46	113	4 48	65				
4 3	115	5 2	64				
4 18	117	5 16	63				
4 34	119	5 31	62				
4 32	122	5 40	60				
5 9	125	6 3	59				
5 25	128	6 18	58				
5 56	136	6 29	57				
5 42	127	6 35	56				
5 51	127	6 43	56				
6 0	127	6 52	56				
<i>h m</i>	<i>o</i>	<i>h m</i>	<i>o</i>	<i>m s</i>	<i>o</i>	<i>h m</i>	<i>o</i>
Duration of total darkness on the central line of shadow	Angle from Sun's upper point towards the West	Local Time from Sun's upper point towards the East	Angle from Sun's upper point towards the East	Duration of total darkness on the central line of shadow	Angle from Sun's upper point towards the West	Local Time from Sun's upper point towards the East	Angle from Sun's upper point towards the East
<i>m s</i>	<i>o</i>	<i>h m</i>	<i>o</i>	<i>m s</i>	<i>o</i>	<i>h m</i>	<i>o</i>
5 37	102	4 25	74				
5 33	104	4 37	73				
5 33	105	4 49	72				
5 30	107	5 6	70				
5 27	109	5 22	68				
5 25	111	5 34	67				
5 19	113	5 56	66				
5 15	115	5 49	65				
5 10	116	6 2	64				
5 5	117	6 15	63				
5 59	118	6 29	62				
5 32	120	6 14	61				
7 45	121	6 58	60				
7 40	122	7 22	60				
7 56	123						
7 54	124						
7 51	124						
7 26	124						



Notes for multiplying the duration of darkness on the central line of shadow to give the duration of darkness at other parts of the shadow's line of shadow.

The times are in mean solar time of those points of the central line of shadow to which they are opposite. The corresponding circles to the phenomenon seen at those points of the central line and approximately to neighboring points within the shadow.

Notes for determining the duration of total Eclipse.



MAP OF EUROPE, SHOWING THE COURSE OF THE SHADOW IN THE TOTAL ECLIPSE OF THE SUN JULY 28 1851.

SUCCESSIVE APPEARANCES OF THE SUN DURING HIS ECLIPSE, ON JULY 28, 1851, PRECEDING THE GREATEST PHASE, AS SEEN THROUGH A TELESCOPE WHICH DOES NOT INVERT, AT



the cusps of the Sun were about 40° asunder, a row of lucid points, like a string of bright beads, irregular in size and distance from each other, suddenly formed that part of the circumference of the Moon that was about to enter, or which might be considered as having just entered, on the Sun's disc. Its forma-

SUCCESSIVE APPEARANCES OF THE SUN DURING HIS ECLIPSE, ON JULY 28, 1851, AFTER THE GREATEST PHASE, AS SEEN THROUGH A TELESCOPE WHICH DOES NOT INVERT, AT



tion, indeed, was so rapid, that it presented the appearance of having been caused by the ignition of a fine train of gunpowder. (See Fig. 1.) My surprise, however, was great on finding that these luminous parts, as well as the dark intervening spaces, increased in magnitude, some of the contiguous ones appearing to run into each other like drops of water; for, the rapidity of the change was so great, and the distance of the appearance of the

APPEARANCE OF THE SUN AT THE ANNULAR ECLIPSE OF 1836, MAY 15, AS SEEN BY MR. F. BAILY.



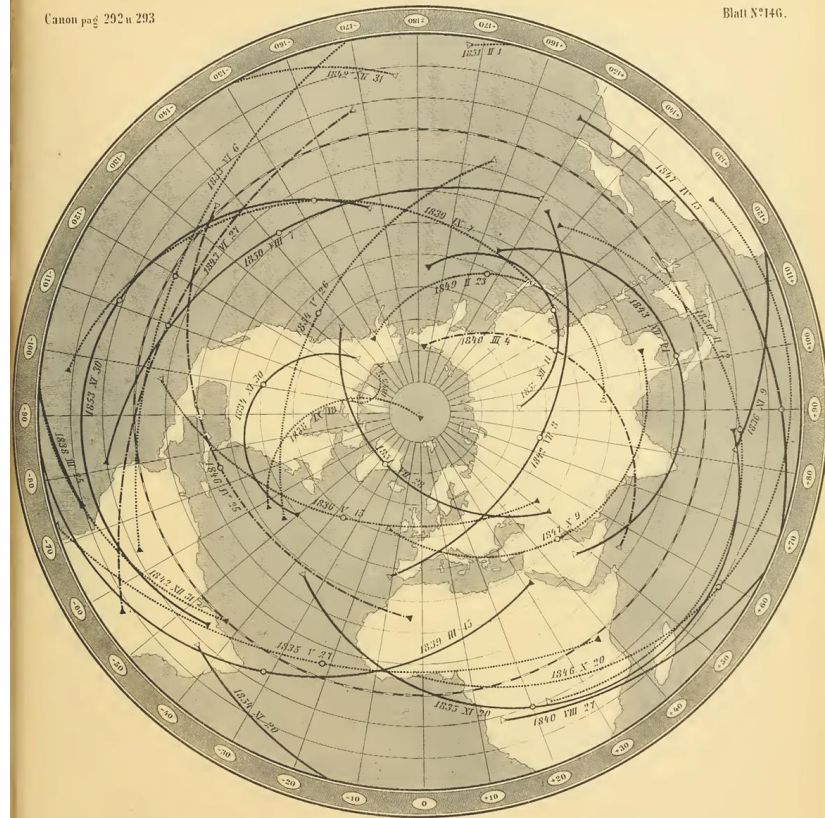
Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

had indeed anticipated the appearance of a luminous circle round the Moon during the time of total obscurity; but I did not expect, from any of the accounts of preceding eclipses that I had read, to witness so magnificent an exhibition as that which took place." Mr. Baily then proceeds to say that the most remarkable circumstance attending this phenomenon, was the appearance of three large



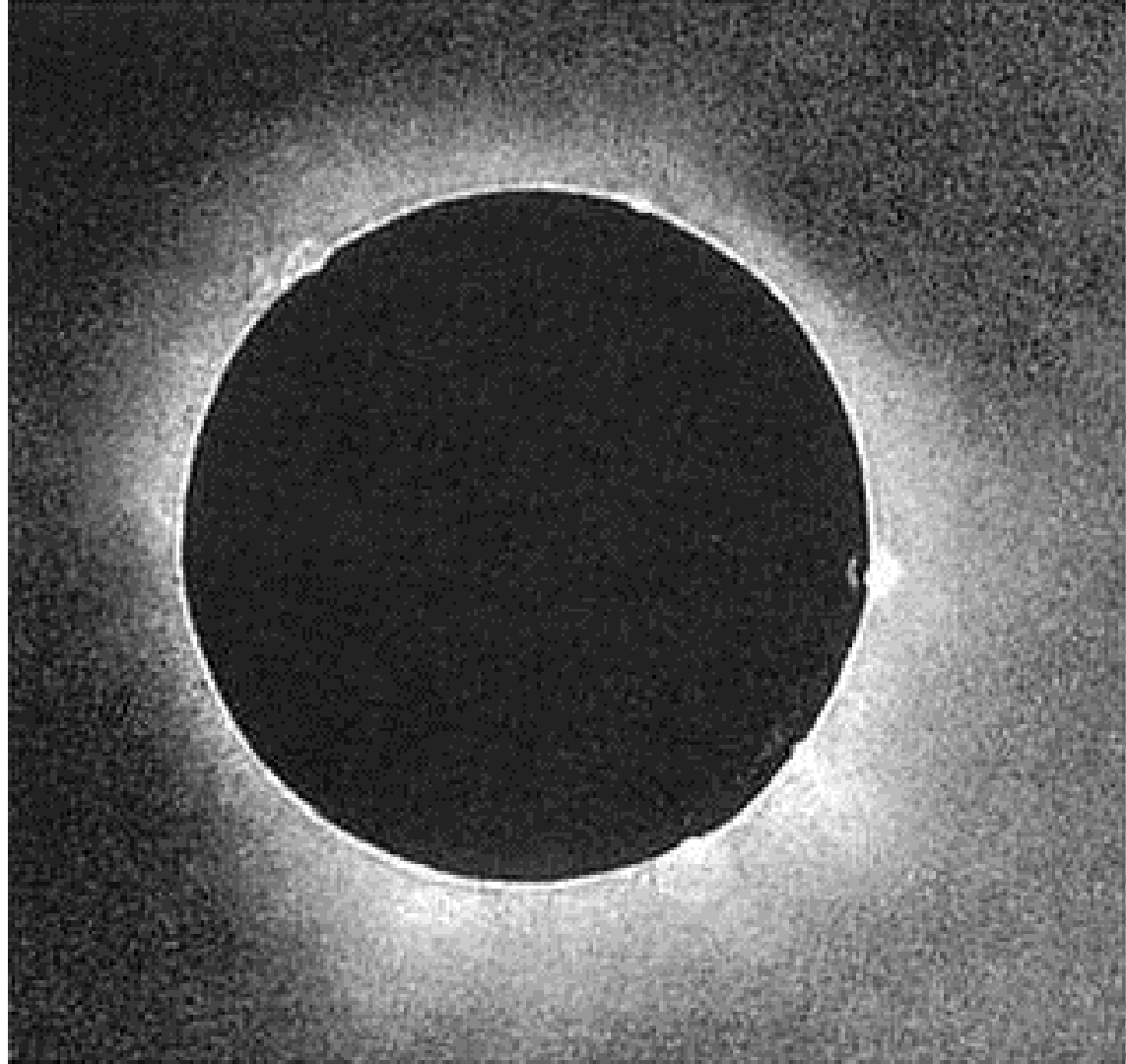
—	totale	} Sonnenfinsterniss	o	Aufgangspunkt
.....	ringförmige		o	Mittagspunkt eent
-----	ringf-totale		•	Mitternachtspunkt
			▲	Untergangspunkt

Gregorianischer Kalender.



74

76



Kaynaklar

[1] T.C. Başbakanlık Devlet Arşivleri Genel Müdürlüğü, Osmanlı Arşivi, Dosya No:9, Gömlek No:30

[2] Cassiano Hallaschka, 'Elementa Eclipsium', 1816

[3] Nautical Almanac Astronomical Ephemeris For The Year 1851

[4] Report Of The Twentieth Meeting Of The British Association For The Advancement Of Science, 1851

[5] The Illustrated London News, , July 26 1851

[6] Theodor von Oppolzer, 'Canon der Finsternisse', 1887,

[7] August Ludwig Busch, Über die totale Sonnenfinsterniss am 28. Juli 1851

[8] <http://sunearthday.nasa.gov/2006/locations/firstphoto.php>

[9] Richard und John Parish, Förderer der Astronomie zur Zeit von Gauß, und die Sonnerfinsternis - Daguerreotypie von Julius Berkowski (1851)

<http://eclipse.gsfc.nasa.gov/SEsearch/SEsearchmap.php?Ecl=18510728>

Christian Heinrich Friedrich Peters, A Biographical Memoir by William Sheehan (1999)