

Historical Note

Reactions of Emperor Bahādur Shāh Zafar and Laureate Mirzā Ghālib to the Celestial Events during 1857-1858

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Abstract

The revolt against the British broke out at Meerut on 10th May 1857 that soon turned into a Great Uprising and shook the foundations of the colonial power in India. A conjunction of Mars and Saturn took place in July 1857. A solar eclipse occurred on 18th September 1857, two days before the capture of Delhi by the British. There followed a lunar eclipse, on 28th February 1858. Then a comet brightened up in the evening skies only days before the British Crown was about to take India in its fold on 1st November 1858. How Mughal Emperor Bahadur Shah Zafar (1775-1862), central to the upheaval, and the laureate Mirzā Ghālib (1797-1859), a remote observer, reacted in such a scenario is central to our theme. Zafar was a superstitious man and had a spiritual incline. What is unique is that he had never mixed up the outcome of the war with the celestial events and left it to Almighty. That he was unaware of these events is difficult to believe. Ghālib was a skeptic and came to believe the celestial events as signals of divine wrath. In the process we discover an unexplored side of Mirzā Ghālib and his grasp of astronomy.

Key words: Annular solar eclipse of 1857, Bahadur Shah Zafar, Donati's Comet, India's Great Uprising of 1857, Mirzā Ghālib, Mughal India.

1. INTRODUCTION

The chroniclers, astrologers and the bards always have a tendency not to let go any celestial events pass unrelated. In relatively modern times, one such situation emerged during India's uprising against the British. Born of an accumulated discontent over long sufferance from their dominion and driven by religious feelings, the revolt that broke out at Meerut on 10th May 1857 soon turned into a Great Uprising that shook the foundations of the colonial power in India. The Great Uprising of 1857 and the British response to it formed an important subject for discussion in works in English, Urdu and Persian based on original archival material, administrative records, contemporary newspapers, personal diaries and

oral history. Too numerous to mention, they make increasingly clear that the Great Uprising was pan-Indian and across castes and communities; in the present context, one may consult the *Mutiny Records Correspondence* (MRC 1911), Husain (1958), Dalrymple (2006) and Dehlvi (2017).

Eclipses, particularly those of the Sun have affected the course of many a battle in history. When circumstances on ground are extraordinary, suddenness of a solar eclipse compounded by superstition makes it even more fearsome. The most famous battle in this regard is the one between the Lydians and the Medians, fought on 28th May 585 BCE on the banks of the river Halys in central Turkey. The eclipse most likely a total was taken as an ill omen of the Sun and caused

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the warring armies to lay down the arms and negotiate an armistice (Stephenson and Fatoohi, 1997; Yazdi, 2008).

That made it a war eclipse. A total solar eclipse of 17th October 1762, the day of *Dīpāvalī*, has been thought by some historians to have cast a decisive impact on the course of history in Punjab over which the path of totality passed. Ahmed Shāh Abdālī (1722-72), acclaimed one of the greatest warriors of Asia, was in those times attempting to establish Afghan rule in Punjab. The incident in question happened while the invader came over to Amritsar with a 60000 strong army to decimate the Sikhs who, numbered about 50000, had gathered to face him. A fierce battle took place but a darkening noon forced an early retreat by the Afghans to Lahore (Kapoor, 2010, pp. 491-93). Commenting on this paper, Micah Ross (personal communication 17.09.2014) observed that eclipses during wars are an important event but frequently overlooked. He asked, ‘eclipses mark many battles in Greece and Mesopotamia. Is this the only Indian battle which happened during an eclipse?’ Checking references to battles concurrent with eclipses, the one of 1762 seems to be the only eclipse that historians say influenced a major battle. Battles there always were, and in the case of some, eclipses may have occurred just before, around the battle or a little afterwards. Only the chronicler or a bard had to connect one to the battle. On this count, the solar eclipse of 18th September 1857 was a war eclipse. Over Delhi it reached ~90% obscuration just when the war against the British reached a very critical stage and did influence the morale of the warriors.

A conjunction of planets considered unlucky in the popular parlance, a solar and a lunar eclipse in a row and the rise of a great comet chanced one after the other just as our first Independence struggle passed through its most critical phases. To a believer and we find one such in the famous Urdu poet Mirzā Ghālib (1797-1869), the happenings were rich enough for one

to relate the imperfect past with the present tense. In his words, the events reflected the wretchedly sorry state of the country. In the sequel, we let the story of the ‘celestial design’ unfold in both the colours – scientific as well as civil built from a letter Ghālib wrote to a friend upon the apparition of a dreadful tailed form in the sky in the month of October 1858. He threads in a few other celestial events that happened around then but considered ominous to make his point. In the focus here are two poets caught in the web of the same circumstances and witness to a holocaust that shattered lives, the moral qualities and beliefs, namely, the Mughal Emperor Bahādur Shāh Zafar (1775–1862; r. 1837–1857), central to the upheaval and a player, and Mirzā Ghālib, a remote observer and survivor. This study disentangles the celestial happenings referred to by Ghālib. In the process we discover an unexplored side of the poet Ghālib, namely, his grasp of astronomy which is quite remarkable.

2. THE GREAT COMET OF 1858

On the evening of 2 June 1858, Giambattista Donati at the Observatory of Florence noticed a faint nebulosity between the constellations of Leo and Cancer about a tenth of the angular span of the Moon in size what would evolve into one of the most spectacular comets in the times to come and bear his name (1858 VI; C/1858 L1 Donati; vide Appendix). The comet enthralled sky watchers in Europe and elsewhere like never before. Clerke (1908), Vsekhsvyatskii (1964), Olson and Pasachoff (1998) and Kronk (2003) have given glorious accounts of how the comet grew to become an unforgettable spectacle. It was a naked eye object for 112 days. The comet was noticed to have developed a tail by 14 August. In September, the curvy form grew very fast and brightened up to be seen naked eye. On 5 October, the tail was estimated to be about 40°, some 80 million km in space that grew to 60° on 10 October. The astronomer George P Bond prepared a

monograph entitled *An Account of Donati's Comet of 1858* that appeared in *The Mathematical Monthly* and thereafter. Aimed at a wide audience, it described the apparition in every detail. The comet began to trail the Sun beginning 23 September. It passed its perihelion on 30.4645 September; $q = 0.578469$ *au* (astronomical unit, defined by the International Astronomical Union as exactly 149,597,870,700 m, approximately the average distance between the Earth and the Sun), inclination of the orbit $i = 116^\circ.9512$ (JPL 2017). Ever since its discovery, the comet was approaching the Earth. It was arriving at the plane of the Earth's orbit about vertically and appeared in the sky moving south-east. It made its closest approach to the Earth on 10.875 October, from a distance of 0.537877 *au* causing it to turn into a magnificent object. The first ten evenings of October presented the most impressive view of the comet. Its tail stretched to 40° - 43° on 11 October, 33° on 15 October, 20° on 16 October and only 5° on 17 October. On 21 October, the comet shone at magnitude 3.7, sporting a 5° long tail. By 4 December, the comet had faded to 5-6 magnitude (Kronk, 2003).

Donati's Comet was the first one to be photographed, on 27 September 1858 by W Usherwood in England on a collodian-coated glass plate (prints untraceable) and by George Bond on 28 September at Harvard with a 15 inch refractor (Pasachoff et al. 1996). A pioneer in stellar spectroscopy, Donati himself was the first to photograph spectrum of the comet Tempel (C/1864 N1) in 1864, a step that opened floodgates to the research in physics and chemistry of comets and thence of the Solar System.

Donati's Comet raised matching excitement among men of arts and the print media. It became the subject matter of many paintings, poetical compositions and made its mark in *The Illustrated London News*, *The New York Times* and *The Punch*. Among the celebrated watchers of Donati's Comet were Abraham Lincoln (1809-65)

who 'greatly admired this strange visitor' and according to an observer 'stayed up to look at it for a solid hour one night', and, Stephen Douglas who too had taken interest in the comet (Finacom, 2008). The gentlemen were in the midst of the famous 'Lincoln-Douglas Debates of 1858' that took place through 21 August – 15 October and Lincoln was yet to be elected the President of the United States. As Finacom (2008) says,

Comets then were still, even in the United States, seen with suspicious awe and fear. The Great Comet of 1811—the most vividly visible until Donati's appeared in 1858—was regarded by some as the precursor of the War of 1812.

The early 19th century India saw the advent of Indian Renaissance that brought the European science in Indian languages to the interested through the efforts of several prominent figures (Ansari, 2002). However, as anywhere, comets and eclipses were considered ominous to the rulers and to the people alike. By happenstance, Donati's Comet rose and reached its full glory in the most troubled times of India. The uprising against the British had failed, the Mughal Empire fallen and most of the male members of the royal family massacred (Dalrymple, 2006, p. 423; Dehlvi, 2017, p. 138), Delhi struggling to get up in the wake of a maelstrom of blood and plunder and, the last Mughal Emperor taken prisoner by the British, subsequently tried, and then sent away to Rangoon to be kept in prison for life. Mirzā Ghālib saw this and much more. A hapless spectator and survivor of the mass destruction, he could not help it but relate the happenings on the ground with those in the sky, beginning with a conjunction followed by two eclipses and as the last straw an overbearing comet.

3. MIRZĀ GHĀLIB, THE LAST MUGHAL AND INDIA'S TRYST WITH DESTINY

Mirzā Asadullāh Baig Khān Ghālib was of noble descent, his grandfather having migrated to India from Samarqand (vide Appendix). Born

on 27 December 1797 in Akbarābad (Agra; see Pritchett, 2017), the young Asad received his early education in a *madrasah* run by a well known scholar Muḥammad Mu‘azzam and subsequently from a scholar ‘Abdus Ṣamad during 1810-12, who had moved over to Agra from Persia. The latter accompanied Ghālib when he migrated to Delhi in 1812-13 in his quest for a new life. His poetic name Ghālib means dominant, while Asad meant the lion; the latter he used in his early poems. Once an epitome of great culture and the capital of the Mughal Empire, Delhi had already been entrusted to the British in 1803, now decadent and wearing an uneasy calm. To note is that the population of Delhi in 1857 was about 150,000 (Kaye (1892, II, p. xvi). Ghālib had begun composing poetry while very young (Malik Ram, 1969, p. 14; Latif, 1928, p. 21). In due course, he began making waves in the literary circles in Delhi, despised by some but admired also by others. Ghālib compiled his first Urdu anthology ca. 1816; the *Dīwān-i Ghālib* came out in print in 1841 (Pritchett, 2017). However, it had taken him a while before he could secure a place in the court of the Emperor Bahādur Shāh Zafar (vide appendix). Zafar himself was a poet who on the recommendation of his royal physician appointed Ghālib in 1850 to write the history of the Timurid dynasty in Persian (Russell and Islam, 1994, p. 135). With the death of Urdu poet Sheikh Ibrāhīm Zauq (1790-1854), his *ustād* (teacher) and poet laureate of the court, Zafar made Ghālib his literary consultant (Faruqi, 1970, p. 30).

The events beginning 10 May 1857 against the British at the Meerut cantonment of the East India Army eventually brought a great catastrophe to Hindus and Muslims who joined in the struggle

against the British. A large contingent of the soldiers headed straight to Delhi. On 11 May they met the Emperor and looked up to him to take the reins in hand (Dehlvi, 2017, p. 60). Zafar was 82 and reluctant for he knew that his writ did not extend beyond his abode, the *Lāl Qil‘a* (Red Fort). Yet he consented and gave his name to the cause. The word spread and allegiance to the same came forthwith from several states.

In a letter to a friend, Mirzā Ghālib wrote (Russell and Islam 1994, p. 135)¹,

“.. at midday on Monday 16th Ramaḍān, 1273 AH, which corresponds to May 11th, 1857... the gates and walls of the Fort and the battlements of Delhi were suddenly shaken. It was not an earthquake; on that inauspicious day a handful of ill-starred soldiers from Meerut, frenzied with malice, invaded the city – every man of them shameless and turbulent, and with murderous hate for his masters, thirsting for British blood”.

Delhi was taken by the British on 20 September 1857 and Bahādur Shāh Zafar incarcerated the following morning by Capt. William Hodson (Husain, 1958, p. 280-81; Dalrymple, 2006, p. 394). The octogenarian Emperor ended up a state prisoner and made to face trial. In the early hours of 7 October 1858, a convoy escorted by the 9th Lancers proceeded to take Zafar and his family to Calcutta (now Kolkata) to be eventually kept in prison in Rangoon for life. Rangoon was then part of the British India. Lieutenant Edward Ommaney escorted the convoy. An Urdu and Persian scholar, Ommaney took due care of the prisoners and reported the proceedings of the long travel (Dalrymple, 2006, p. 444). The convoy, by land route, reached Allahabad on 13 November 1858, to eventually proceed to its destination.

¹ Most dates listed in this study are Gregorian and the years CE/BCE. Mirzā Ghālib in his writings has used both the calendars, civil as well as Hijri. In a few Hijri dates I have found 1-2 days difference from the date-converters where day count is from conjunction. The Moon becomes normally visible 15 to 18 hours after the conjunction but depending on astronomical parameters, the geographical location and atmospheric conditions causes a difference of 1 to 2 days to fix the beginning of the month. With a general view not in favour of the astronomical calculation, the date conversion gets complicated. The printed *jantrīs* of the first half of the 19th century were a novel item for use by the populace. Having been prepared in advance, these would have had to address the fundamental question of fixing a month’s beginning.

Coincidentally, just when the arduous journey began it was also the phase when Donati's crystal tresses laced the evening sky brilliantly. Lieut. Ommaney in his communications makes no mention of it, though everyone in the party and above all Zafar was there to see it. He apparently showed no reaction. Had there been any, Lieut. Ommaney would have recorded it. That an apparition noticed all over finds no reaction on record here is quite surprising. Comets are no harbingers of misfortune but this one dared to be one to the few in the convoy for whom the emotional shocks of the loss of dear ones and power were too fresh. Going by the Mughal history where the irrational side of celestial phenomena, namely, astrology and superstition prevailed over the life, the apparition could not have been seen other than as evil. Astronomical observations were required generally for astrological purposes, to precisely determine auspiciousness of events and their timings. Be it the royal births, the eclipses, omens or the strategic marches, Hindu astrologers were invoked (Schimmel, 2004, p. 139-40).

4. THE CELESTIAL EVENTS IN MIRZĀ GHĀLIB'S REFERENCE

There is an account of a *sitāra* '-i *dumdār* (tailed star, Urdu term for comet) in an Urdu letter by Mirzā Ghālib that was witnessed after sunset near the horizon and which was the talk of the town for several days on. Ghālib's letter is about the apparition of Donati's Comet². The letter was addressed to his friend Nawāb Anwārud Daulah Shafaq. Here below, we reproduce translation of the full letter from Rahbar (1987; letter numbered 101), for reasons of its content and the risk that paraphrasing will only kill the magic of his literary flavour apparent even in the English translation:

"Pir-o-Murshid,

A gracious letter came from you and from it I received the glad tidings that the *Dastanbū* [the diary] had arrived safe and sound. My response was the acknowledgement of an indebtedness to those who run the postal train and the happy thought that my efforts had not been in vain. A few days later, I received another letter, a veritable life saver. In other words, it was the second round of the cup of favour. It was then imperative to write some account of the comet. Since the arrival of that letter I have been wondering what to write, for nothing can be said without consultation of the astrological works. Thus I helplessly repeat the line of Mirza Saib:

*I am frightened by this star
Which has a tail*

This line belongs to the opening verse, the first line being:

*The mole at the corner
Of my darling's eyebrow
Makes me shudder.*

Don't you recognize in me a man highly accomplished in meritlessness and worthlessness? Haven't you discovered the secret of my success? It is told in the words of the following Persian saying:

*Before a priest, I am a physician;
Before a physician, a reverend priest.
When neither is present, I am both;
When both are present, I am neither.*

I dabble a bit in mysticism and a bit in astrology in order to have resources with wish to adorn some poetic line. So, tell me: besides a sense of poetic rhythm, what other endowment may I rightly claim as mine? As far as astrology is concerned, when the forces of sedition begin to work in the world, their forms become visible on the surface of heaven. You determine the position of the sign of zodiac in which such a form appears and calculate by a thousand conjurations before

² In a seminar in 2006 at the Indian Institute of Astrophysics, N. Kameswara Rao had independently suggested that Ghālib's reference in his letter is to the bright naked eye comet of 1858 named after Donati (Kameswara Rao, N, Vagiswari, A. and Birdie, C., 2008. Telescopic Astronomy in Colonial Times, *Proc. National Symposium India*, Mysore, 2008; unpublished).

reaching a verdict. In Shahajahanabad, the Sun's light lingered on the western horizon after sunset. Now, since in the beginning of those days the Sun was at the last stage of the sign of Libra, it was believed that this form was in the sign of Scorpio. The exact position of the sign I wish to know. Over this comet the people of this city made for many days much ado. Now it hasn't been in sight for ten days. Judging from your enquiry about it, I would guess that it has now appeared there. All I know is that such things are signs of divine wrath and signals of devastation and its aftermath. The conjunction of unlucky planets, the eclipse of the Sun, then the eclipse of the Moon, and then this form, this sinister sister of these other evil omens! Heaven help us!

On Wednesday, the first of November, the alleys and bazārs here were illuminated and, after nightfall, the annulment of the Kampani contract and the inauguration of Imperial Rule were proclaimed. Nawab Gavarnar Janral Kaining Bahadur received the title of Blessed Illustrious Son from the Mighty Queen of England and was appointed Chief Administrator by Her Majesty. I have already written a *qasādah* [panegyric] offering felicitations on this occasion. You must have seen it included in the *Dastanbū*,

*When it comes to fruition
Then we'll see
For we have planted
A friendship tree."*

For the footnotes referenced in the letter, see Rahbar (1987). The original letter is in Urdu with the poetic lines in Persian (Fārsī). The phrase *Pīr-o-Murshid* means mentor and guide. The letter in Rahbar's translation is not dated. In Sharma and Sharma (1958, pp. 198-200) and Anjum (1993, pp. 986-988), we do find the letter ending with *jum'a panjum navambar san 1858 'ī (svī)* (equivalently, Friday 5 November 1858 CE; see also Kanda, 2005, p. 359). As for the date 1 November referred to by Ghālib in the letter, it was in fact a Monday. The 'Mirza Saib' quoted in

the letter is some other poet. The word 'astrology' is translation of the word '*Ilm-i nujūm*'. The *Dastanbū* meaning *a bunch of flowers* is the title of Ghālib's work in Persian prose wherein he narrates in his own perception the events following the uprising against the British beginning on 11.05.1857; the narration covers events until 31.07.1858 (Sharma and Sharma, 1958, p. 57, p. 197). The *Dastanbū* was published from Agra by the press *Maṭba'ī Muḥīd-i Khalā'iq* (Faruqi 1970, p. 10, p. 21). Like this book, Ghālib's letter carries a leaf from the history of India during its most troubled times. He survived the bloodbath that followed Delhi's re-capture by the British. The imperial city of the Mughals now wore a deserted look and was not quite normal even after a year since the re-capture. Ghālib had innumerable friends, but now many killed, jailed or banished from the city. Only very few visited him. Ghālib's *ḥavelī* (house) stands in Gali Qāsim Jān, Bāzār Ballimārān, in the old city of Delhi, also known as Shāhjahānābād which was founded by Shāhjahān (1592-1666) in 1639. It is declared a heritage site by the Archaeological Survey of India and the *ḥavelī* is now a museum. The word 'Kampani' in the letter refers to the East India Company and the phrase 'Nawab Gavarnar Janral Kaining Bahadur' refers to India's first Viceroy and Governor General Charles Viscount Canning (1812-62).

Ghālib's letter carries a strong astrological slant. Looking back at the celestial events happening in a row, he was convinced of these as signs presaging the miserable present. He was a learned man, well versed with logic, philosophy, astronomy, medicine and master of Persian and Arabic literature. For a religious skeptic but rational, it looks odd that he should see the celestial events, mutually unrelated and far apart on the time axis, as ominous signs. Turbulence in life around numbs people's mind and spurs them to find meaning in the obscure and even seek solutions. As it appears, he could not help it,

having lost everything to the storm. To top it, the addressee himself would be given to such beliefs.

It is not known how deep he got into it but he had to be quite well versed in with basic astronomy. He would need an almanac for the year to be able to come to know of an event like the conjunction of planets (in the present case for the Hijri year 1273). In a letter sent on 19 February 1859 to his friend Munshi Hargopal Tafta, he does refer to having sent money to the publishers for 12 copies of *Dastanbū* and a *jantrī* (Urdu almanac; Sharma and Sharma, 1958, p. 90; Russell and Islam, 1994, p. 195). The latter were printed in advance of the beginning of a year. An almanac would normally contain calendar of the year, information on events of the year, positions of the planets for each day, the astronomical events like the eclipses and planetary conjunctions, particularly of Jupiter and Saturn with timings and the astrological interpretations, and, even probable disastrous events. It would be interesting to examine the early 19th century *jantrīs* and *pañc-āṅgas* for eclipse predictions and what those had to say about an annular eclipse³.

5. THE CONJUNCTION OF UNLUCKY PLANETS

In his letter, Ghālib points to *the conjunction of unlucky planets* but does not allude to which ones. That reference is mentioned in the *Dastanbū* (Faruqi, 1970, p. 28):

Astronomers have told us that Saturn and Mars were in confluence in the sign of Cancer at the time when the courtly revelries of Yazdagird, last emperor of Iran, were disrupted by the Arab

invasion. Today, also, Saturn and Mars are in confluence in Cancer and will so remain until the turmoil in the world has ended. This turmoil – the cruelty, bloodshed and degradation – issues from the inauspicious conjunction of these stars. But those who can read the truth will find the difference between these two periods quite obvious.... The Arab invasion of Iran was the invasion of one country by another; in India, however, the army has revolted against its own leaders....the invasion of Iran was neither as devastating nor as full of despair as is the rebellion in India....I am not so dull as to call the bright stars lightless, or to believe the high heavens are impoverished, nor am I so ignorant as to consider the effects of these stars as false, or the confluence of inauspicious stars as illusion; for I know the terrible issue of the confluence of Saturn and Mars which took place one thousand years ago.

The duo actually came to their closest position in the sky on 27 July 1857 when while trailing the Sun the planets drew to each other to about 1°, and ~7° south of the star Pollux. Rising about an hour before the Sun, the planets stood in the constellation of Gemini though the *sign* was Cancer. For the conjunction, Ghālib uses the Persian word *naḥsīn* (Persian pl. of *naḥas* meaning inauspicious). It means unfortunate stars Mars and Saturn. Yazdgird III (624–651 CE) referred to in the passage above was the last king of the Sassanian Empire, by whose name the pre-Islamic Persian calendar is known. Ghālib cites the episode from history to draw a parallel with his *present* and the rise against the British dominion where the situation seemed presaged by the same conjunction of the unlucky planets in the sign of Cancer.

³ In the Ptolemaic concept, minimum diameter of the Sun and the Moon were the same that excluded the possibility of annular eclipses. The Islamic astronomers believed on the contrary that annular eclipses of the Sun are possible, since some astronomers of the late medieval period accepted their occurrence, by working with the methods in the Indian astronomical works to determine the angular diameters of the Sun, the Moon and the Earth's shadow (Mozaffari, 2015, p. 125). 'In modern Persian, it is named *Kusūf-i Ḥalqavī* (كسوف حلقوي), but in the medieval period, a similar name used and common to Arabic and Persian was *Ḥalqāt al-nūr* ("the bright ring"). The annular solar eclipses were defined and justified as a celestial phenomenon about the early 11th century by Abū al-Rayḥān al-Bīrūnī. No reference to it can be found in an earlier time' (Mozaffari, 2017, personal communication 08.12.2017). There is no discussion or observational reports of such eclipses in the Ancient Indian astronomy texts though Varāhamihira was the first to talk about them in the *Bṛhat Saṃhitā* (Bhat, 2010, p. 56). Shylaja and Ganesh (2016) have found a few early inscriptional records of annular eclipses from South India.

The Madras Almanac and Compendium of Intelligence (MACI) for 1857 mentions Mars and Saturn to be in Gemini in the month of July, and, in conjunction on the 27th (MACI, 1857, p. 33). There were a number of planetary conjunctions and alignments that happened since early 1857 until around the apparition of the Donati's Comet. An interesting conjunction of Mercury-Venus-Jupiter also took place when the planets huddled up within 3° - 4° on 29 April 1858, post sunset, at altitudes ranging from ~14° to 18°. The conjunction of Venus-Jupiter is believed to be fortunate but it did not pass muster with the poet. Note that Shāhjahān's title was 'Second Lord of the Conjunction (*Qiran*)', that is of Jupiter and Venus at Shāhjahān's birthday on 5 January 1592; see Ansari (2015, p. 584) for its importance. Notably, right in the beginning of the *Dastanbū*, Ghālib comments on such conjunctions thus (Faruqi, 1970, pp. 26-27):

Whereas Venus and Jupiter, being auspicious, assure our good fortune, Saturn and Mars, being inauspicious, are responsible for our losses. Those who know the truth know wherein lies the source of happiness and sorrow, inauspiciousness and grace – for the stars are but servants of the most just Emperor. The soldiers of His court can never step from the circle of His justice; nor can they do other than remain in conjunction with one another....How can we think that the effects of the stars are cruel when the skies are turned by the Hand of the Lord?

6. ECLIPSES OVER A CITY UNDER SIEGE

However well one might have known the cause of eclipses, the Mughals were ever fearful

of them. The Mughal memoirs bring forth this fact clearly. During eclipses, specific rituals were carried out to ward off their evil influence, like the ruler being weighed against the alms (grain, butter, etc.) to be given in charity (see Schimmel 2004, p. 140). Referring to *Precis of Palace Intelligence* (National Archives of India, *Foreign Dept Misc.*, Vol. 361), Dalrymple (2006, p. 376) quotes from an entry for the day 2 July 1852:

According to the Palace Diary, after the eclipse of 2 July 1852 Zafar had attempted to counter the malignant effects by having himself weighed 'against several kinds of grain, butter, coral etc and then distributed the results among the poor'.

The Diary entry reflects the Mughal tradition only. It started in Akbar's time as a ceremony on the occasions of the birthday of the Emperor, *Nauroz* and major Hindu festivals, including eclipses. Zafar had a spiritual incline but was superstitious as well. He kept a string of Hindu astrologers by his side who would suggest remedies to untoward incidents⁴.

These few months, the city under siege was witness to street-to-street and combat fight, loot, panic and desertions. Did Zafar know of the forthcoming eclipse? He had left the Red Fort in the early hours of 17th September itself (Dalrymple, 2006, p. 369). The solar eclipse preceded his capture from Humāyun's Tomb by Capt. William Hodson by three days. A waning Sun could only add to the anxiety of the Fort and the fighters and accelerate the battle towards its conclusion.

⁴ The eclipse of 2 July 1852 was a lunar. It was actually on the evening of Thursday, 1 July 1852, that ended a little before midnight at Delhi. That day at Delhi, the sunset was at 13:51 UT, the Moon already up at 13:45 UT and partially eclipsed. The eclipse was total during 14:39 – 16:13 UT and ended at 17:15 UT. That is around when the Hijri date would change to 14 Ramaḍān 1268 AH, Friday. If this date is converted back, one may get 2 July 1852, Friday. Dalrymple (2006, p. 538) quotes another entry in the *Precis of Palace Intelligence* for Thursday, 9 January 1851 as follows:

"Sookhamund Astrologer intimated that there would be an eclipse of the moon on Thursday night the 13th of Rubbee Ool Ouwal [*Rabī'-I*], and that HM should not appoint that day for his departure to the *Kootub* [Qutub, a suburb of Delhi]. Instructions were accordingly issued for HM's departure on the following day, Friday."

The eclipse in fact was on Friday 17 January 1851, a partial, during 15:41 UT - 18:00 UT, and in Cancer. The corresponding date should be 15 *Rabī'-I*. There is nothing in any document to suggest of the repercussions of such a wrong prediction by a palace astrologer. *The Bengal Almanac, for 1851* duly listed the lunar eclipse, to be visible as partial at Calcutta.

Dāstān-e-Ghadar (Dehlvi, 2017) is an exceptional eye witness account in Urdu of the events of 1857 in Shāhjahānābād and elsewhere by Zahir Dehlvi, a 22 year old official in Zafar's court. On the struggle for Delhi, he gives a vivid account of how the British gradually established themselves and eventually took the city. At times he does not give the dates. Surprisingly, while describing the events of the days around 18th September, he makes no allusion to the occurrence of the eclipse (Dehlvi, 2017, pp. 130-135). Earlier in his memoirs, he describes the night sky as on the night of the 16th day of Ramaḍān (1273 AH; i.e., 10 May 1857) and the approaching dawn (Dehlvi, pp. 48-50). With still some time to the sunrise, the moon of the sixteenth night is about to disappear from the sky. He notices the morning star in the sky around when the signs of the morning are beginning to appear. And then he makes a chilling comment 'After wishing everyone *Ramzan Mubarak*, we go to lie down in our beds. No one knows that the morning will bring devastation akin to doomsday'.

Did Ghālib know of the impending occurrence of the eclipse? He subscribed to Urdu *jantrīs*. The 18th century European almanacs had been carrying such information. Nearer home there were many in English like *The Bombay Calendar and Almanac*, *Bengal Almanac*, *Madras Almanac and Compendium of Intelligence*, *Temperance Almanac* etc., published over the years and packed with sufficient astronomical information. The local populace relied on indigenous almanacs and sourced these from specific centres of astronomy like Ujjain, Varanasi and Gaya, the temple towns in the south or the newly set up printing presses. Their correctness and accuracy in predictions was a question (Bayly, 1996, pp. 247) as these were prepared on the basis of formulation and parameters that had come down the ages, not based on fresh observation, and thus leading to errors in predicting planetary positions, eclipse timings, etc. By the middle of the 19th century, *jantrīs* and

almanacs were being printed by the new lithographic presses at Kanpur, Lucknow and Agra. Orsini (2004, pp. 111-2) lists many books brought out by a Kanpur publisher *Maṭba'-i Muṣṭafā'ī* in the year 1853 with all the 1200 print copies of its Hindi almanac and Urdu *jantrī* for the year 1854 sold out. It would be interesting to know whether in any one of these *pañcāngas* the conjunction was mentioned.

In my search for an *Urdu Jantrī* for the year 1274 AH, I came across one in the possession of the Khuda Bakhsh Library. The *Jantrī* contains 8 pages, covering the period of 1857-58. It was published by Nami Press, Lucknow. It is basically a calendar. These pages 226-227 cover six months, from April to September and give column-wise, right to left, the dates of four principal eras, namely, the *Isvī* (Gregorian) beginning with April 1, the *Hijri* 1273-74 with *Sha'ban* 5, the *Faṣlī* 1264 with the date 22 and the *Vikramī Samvat* 1914 with *Chet* 7. The date 18 September here corresponds to Muḥarram 28 *yawm al-jum'a* (Friday). There is no mention of the eclipse on that day. There is no section in the *jantrī* on eclipses or prophecies about the political climate. That is rather disappointing and the question if Ghālib knew of the impending occurrence of the solar eclipse remains unanswered.

The solar eclipse of September 1857 was the only one that passed over India while Ghālib was writing the *Dastanbū*. It was an annular one (the last solar eclipse Delhi had seen was on 11 December 1852, a partial and at mag. 0.18, it was nondescript). The path of annularity started from north Turkey and passed over Peshawar, Rawalpindi, Jammu, Manali, Uttarakhand, Nepal, West Bengal and Bangla Desh, etc. (vide appendix). Delhiwalas saw it as a partial eclipse with a magnitude 0.893, the magnitude at Lahore being 0.93 and at Madras (now Chennai) 0.57. The circumstances at Shāhjahānābād were as follows: Contact 1 at 2h 54m 06s, maximum at 4h 19m 51s and Contact 2 at 5h 54m 11s UT.

An eclipse at that magnitude would not pass unnoticed. This one finds mention in the government documents and the memoirs, notwithstanding the circumstances being what they were on the 18th of September. The *Mutiny Records Correspondence* (MRC 1911), a document brought out by the then Government of Punjab, carries a string of telegrams as parts of the daily records of the goings on in Delhi, including information received from other places sent by the British officers to the Chief Commissioner, Punjab, Lahore, the Secretary to the Government of India, Foreign Department, and to other officers elsewhere. The item no. 190 in the MRC has an enclosure (1) to it, a telegram dated 18th September 1857 from Brigadier-General Neville Chamberlain, Delhi to the Chief Commissioner, Punjab describing the state of affairs (MRC 1911, p. 64). The telegram describes the troops' position and the situation with 'no certain intelligence as to the King and his family' but a mere mention of the eclipse, as if for record only.

However, in his narrative of the capture of Delhi in which the 61st Regiment, an infantry regiment of the British Army, had participated, Captain Charles Griffiths (Griffiths 1910, p. 183) does note the effect of the eclipse:

During the forenoon of the 18th there was, I think, a partial eclipse of the sun, which lasted three hours. The unusual darkness which prevailed astonished us beyond measure (our minds being taken up with events more startling than astronomical phenomena) till reference to an almanac explained the mystery. The eclipse had, we were told, an alarming effect on the mutineers, who attributed the phenomenon to some supernatural agency. The darkness no doubt worked on their superstitious fears, and hastened their flight from the city on which the wrath of the Almighty had descended.

Dalrymple (2006, pp. 376-77; p. 538) writes about the other side:

In the middle of the following morning, 18 September, the sun was completely eclipsed for five minutes. The city darkened ominously for

nearly three hours, before the light slowly returned. The British soldiers were unnerved by the event since no one had warned them to expect it. But for the Hindus it was an event of far greater significance....Although the eclipse was considered the worst possible moment to begin any journey, it was on this occasion taken as indicating that for the last lingering sepoys now was the moment to abandon the hopeless fight, and to escape the doomed city.

In the *Dastanbū*, Ghālib describes the eclipse of 18 September as follows (Faruqi, 1970, pp. 41-42):

All has been written in eternity and nothing can be changed. Our fears are decreed in an eternity that has no beginning and no end; and each of us has received according to his written destiny. Sorrow and joy issue from this eternal order. So I should leave my cowardly state of listlessness and, in my old age, watch like a child, with ready excitement, all the astonishing things which are occurring.

At noon on Friday, the twenty-sixth of Muḥarram, which is the eighteenth of September, an eclipse occurred when the sun, which sheds joy and light upon the world, entered into a new constellation. The darkness so frightened the people that inside and outside of the city the misguided rebels fled like swine, and the victors captured the city and the Fort. The horror of mass arrests, assassinations, and slaughter now reached our lane and the people shook with fear."

In the Persian version of the *Dastanbū*, the date is 28 Muḥarram (Hoda Ataollahi, personal communication, 21.01.2018). Ghālib goes on about how the ghastly events of murder and pillage affected the people in the months that followed (Faruqi, 1970, p. 58):

In January 1858, the Hindus were given a proclamation of freedom by which they were allowed to live again in the city and these people have begun to return from the places where they had found refuge. But the houses of the dispossessed Muslims had long remained empty...

Sir John Lawrence, who was the Chief Commissioner of Punjab in 1857, came over to Delhi in February 1858 as its Chief Commissioner. Ghālib saw his arrival as assuring to the people

and even sent him a panegyric (*Qaṣīdah*) on the 19th of February. Two days later came the news of capture of Lucknow by the British. Ghālib says the news brought relief to the destitute and signaled times of calm. He relates this to the lunar eclipse that happened on the night of 27 February (Faruqi, 1970, p. 60):

Saturday, February twenty-seventh, came to an end and darkness fell over Delhi. When most of the night had passed such sighs from the hearts of the oppressed had risen into the skies that they obscured the face of the moon and the people cried out saying that the moon was eclipsed. On that same Saturday the orders of the *durbash* came to an end and those who sought justice, or audience, or refuge were given these things.... In the entire city of Delhi it is impossible to find more than one thousand Muslims; and I am one of these. Some have gone so far from the city it seems as if they were never residents of Delhi.

This eclipse was a partial, beginning at 21:11 UT, that is, past midnight (therefore, 28 February).

Under the then prevalent circumstances, the September 1857 eclipse may be called a war eclipse. Whether the eclipse was noticed as annular from places in north-west that lay in the path, there is no account of it by any historian, or, in any available reports or the memoirs.

7. FASĀD KI ṢŪRAT (THE EVIL FORM)

In the translation of Ghālib's letter by Rahbar (1987), the part describing the position of the comet among the stars needs reparation. With due correction, it may read as:

You determine the position of the form in the sign of zodiac in which it appears in *darjah* (degrees) and *daqīqah* (arcminutes). One has to calculate by a thousand conjurations before converging to a result. In Shahajahanabad, it was seen after sunset on the western horizon. Now, since in those days the Sun was in the beginning of the sign of Libra, it was believed that this form was in the sign of Scorpio, so its position in *darjah* and *daqīqah* remained unknown.

Ghālib's sky positions for the comet, we note, are in the tropical system. The Sun being in *Awwal Mīzān* means it to be in the beginning (initial point) of the zodiacal sign Libra, i.e., in a longitude of 180°; that is when the autumnal equinox occurs. The Sun's entry into Libra would have worried Ghalib on another count, for, in that sign the Sun is in its *fall*. His last observation: a 'position in *darjah* and *daqīqah* remained unknown', acknowledges that the comet is still close to the Sun so that its position in degrees and arcminutes can not be ascertained.

We can fix the window of his observation by following the course of the comet with JPL's *Horizons System* and that of the Sun with *Your Sky* through the months of September-October, with Delhi as the place of observations. The Sun passed the equinox on 23 September 1858, 08:35 UT. It crossed the longitude 210° to enter the sign of Scorpio on 23 October, 16:49 UT. That forms our window in the first approximation.

The Sun being in *the beginning of the sign of Libra* means, we may consider it located within the first half of the sign (180°-195°). The Sun passed the longitude 195° on 8 October, 14:14 UT. That means in the period 23 September – 8 October, the comet ought to be in between the longitudes 210°-240°. The orbit computation suggests that the comet passed into the sign of Scorpio on 7 October 13:38 UT and exited it on 15 October 02:28 UT. In India, the comet could have been seen in the sign of Scorpio first on the evening of 8 October only, placed about 3° south-east of ζ Bootis. For the Sun and the comet to be in the respective signs as per Ghālib's letter, his window narrows down to 8-15 October.

The computed positions of the various solar system objects as at sunset on 8 October and 15 October are given in the Table 1. The positions are apparent and with respect to the Earth true-equator and the meridian containing the Earth true-equinox of date. The quantities λ and β are ecliptic

Table 1. The computed positions of the various solar system objects

	UT	r	Δ	λ °	β °	Alt °	Az (S-W) °
1858-Oct-08							
Comet	12:24	0.606	0.548	214.238	25.799	29.18	87.55
Sun			0.998			-0.327	83.495 Setting
Venus			0.639			23.554	42.166 Up
Moon			61.6 ER			7.071	67.398 Up
Mars			1.163			35.869	6.970 Up
1858-Oct-15							
Comet	12:17	0.669	0.575	241.275	8.059	30.93	54.25
Sun			0.996			-0.432	80.554 Setting
Venus			0.585			23.337	39.687 Up
Moon			63.4 ER			36.087	-15.632 Up
Mars			1.204			36.229	6.741 Up

longitude and latitude respectively. The Sun's and the planets' positions are computed for Delhi. The quantity r is comet's heliocentric distance and Δ the geocentric distance in astronomical units (au); the Moon's distance is in Earth Radii (ER). Between these two dates, Mercury, Jupiter and Saturn were set and the comet trailed the Sun.

As for its visibility, we gather from Vsekhsvyatskii (1964) and Kronk (2003) that the comet was visible to the naked eye as follows: on 9 October and 12 October as bright as Vega (mag. 0.03), on 24 October as bright as β Aquilae (mag. 3.71, primary of the binary) and fainter than the latter by 31 October. It could be seen with an unassisted eye until 10 November. The comet became spectacular in the second week of October when it passed closest to the Earth on 10 October from 0.5379 au at 21:00 UT, and after which it began to dwindle fast in tail length and brightness. The path of the comet through the period 24 September – 27 October can be made out from its observed positions in the sky as given by various observers in the pages of the Journal: Monthly Notices (MNRAS 1858).

Ghālib's sighting of the comet, though not dated should be within the period 8 October - 15 October, more likely in the earlier part of the week.

When he observes that it hasn't been in sight for ten days, that is at the time of his writing in early November. This is in order knowing that a 33° long tail seen on 15 October diminished to a mere 5° between 17 to 27 October. There is no reference in his writing to a Moon brightening up to its full on 22 October and the comet's brightness dwindling.

As noted in Russell and Islam (1994), Ghālib's *Dastanbū* came into print by mid-October, 1858. Ghālib and his friend Nawāb Shafaq missed out on referring to another attraction in the sky, namely, a brightening Venus, up those days to add to the observers' delights. For instance, on Saturday, 16 October, 13:00 UT at Delhi (sunset at 12:16 UT), Venus stood at about 17° altitude, about 11° south-west of the comet and barely a degree to the east of the bright star Antares. Then at 0.577 au from the Earth, the planet would be very bright, for, Venus attains its maximum brightness when 0.43 au from us. On 20 October, the comet slid past Venus from ~ 2° only.

Mirzā Ghālib, who at the beginning of his letter commented: '*azīm sitāra*'-i *dumbāldār mī tarsam* (I am scared of this great tailed star), could be witness to the great comets of 1807, 1811, 1831,

Halley's Comet in 1835, the Great March Comet of 1843 and the comets of 1845 and 1854. Each one of these created sensation but there is no comment from him thereon. We also do not find a reference by him to several large magnitude solar eclipses at Delhi, namely those of 17 July 1814 (mag. >0.9; total at Chandigarh), 19 November 1816, or that of 14 April 1828. The last one was annular at Agra but Ghālib was then in Calcutta (Malik Ram p. 29; Russell and Islam 1994, p. 51) where the eclipse at maximum reached the magnitude 0.866.

8. CONCLUDING REMARKS

Since times immemorial, people have seen providence in situations developing in the sky, namely the conjunction of planets, occurrence of eclipses, meteors and comets. Recording such events in the political history was a tradition in the empires of the Middle East. The Mughal Empire when in its heydays was no exception. The Emperors took these occurrences quite seriously and even sought remedial measures. Political astronomy is about the role and the influence celestial events make on polity or a people's life and their response thereto. Mirzā Ghālib's *Dastanbū* and the letter to his friend are central documents for the present paper. He was goaded by the appearance of a comet, a subject of talk among people and their fears. When one after the other four celestial events came to pass, the poet, a hapless witness to the greatest political upheavals of life could not help it but to connect the dots.

Ghālib and Zafar fell in situations very different from each other's but the turbulence brought about a pole-reversal in their minds. Their city of joy and hope had turned a necropolis right before them. The former becomes fatalist, blaming it all on the fault in the stars. That Bahādur Shāh Zafar, ever fearful of the same, was unaware of the conjunction and eclipse is difficult to believe. Most surprisingly, the apparition of the great comet noticed all over finds no reaction on record from

Zafar. Rather, he is so benumbed by the agony of loss that he ends up totally insensible to the same. It was not easy being at the helm of affairs and yet come off a fighter. In his utterances, Zafar imputes no fault on the celestial design – neither through the course of the events and his trial by the British, nor subsequently –when he lamented about his city (Husain, 1958, p. 341):

Dehli was not a city but a garden of hearty pleasures (*Chaman-i Dillī*) with all kinds of security and amenity. That epithet of Dehli is obliterated. Now Dehli is a ruined waste land.

In an expression such as in the following, he consoles himself for the punishment by Allah for his inability to save kingdom, and hoping for the Prophet's support:

O Zafar! You should have no fears of standing before the Divine Tribunal and of being called to account openly by God on the Day of Judgment since you can count on the intercession of the Prophet. He is your supporter in any case and saviour.

Zafar believed whatever happened was as had been written in his fate only.

As we make it out from the whole lot of letters that Ghālib wrote his friends, he appears to see only the celestial events of 1857-58 as *ominous signs*. In a letter addressed to 'Alā'ud Dīn Aḥmad Khān 'Alā'ī dated 6 August 1862 (Sharma and Sharma, 1958, pp. 488-90), the poet, a victim of financial crises always, mentioned the starry nights that he enjoyed to the brim with no apprehension of the heavens falling. This we can notice in the following part of the letter (Russell and Islam (1994, p. 275-6):

I do not fear death, nor do I lay claim to patience. And I believe not in freewill but in predestination.....But let your refined mind be at rest: all cause for uneasiness and fear has gone. The rain has stopped; the landlords have had repairs put in hand; the boy is no longer afraid; the mistress is no longer disturbed; I no longer suffer discomfort. I have the open roof, the moonlit night, the cool breeze. All night long Mars can be seen in

the sky, and an hour before first light shining Venus comes into view. As the moon sinks in the west, Venus rises in the east: and I enjoy my morning draught of wine and this radiance.

The ‘boy’ referred to above is Ghālib’s grandson who had been scared of the continuing torrential rains and the word ‘mistress’ is for his wife. The letter dates four days prior to the Full Moon. Notably, the Great Comet of 1861 (C/1861 J1, Tebbutt) that had excelled even Donati’s Comet in brightness and was visible to the unaided eye for three months seems not to have left any impression on him. Celestial imagery figures only a little in his poetry. Nevertheless, our hobbyist of ‘*Ilm-i nujūm*’ (astrology) knew the stars well, better than we can imagine. In his letter to his friend Nawāb Anwārud Daulah Shafaq, Ghālib addressed his concern about the *sitāra ‘-i dumdār* (comet) that appeared in the autumn of 1858 and specified exactly where the comet was to be found in the zodiacal circle. In the same letter as also in *Dastanbū*, Ghālib kept track of how the planets Mars and Saturn were drawing close that too in the sign of Cancer, a conjunction that is always seen as sinister. He also knew where to find the planets in the sky, by the naked eye. Ghālib practiced astrology for extra income only, not possible without an adequate knowledge of astronomy. An observation on him by Samad Rizvi (2011) is in order who credits Amīr Khusro (1253–1324) with pioneering a form of astrological poetry where horoscope is presented pointing figuratively to the good and bad influence of celestial circumstances:

“...”Astrological Poetry” is the exclusive invention of Ameer Khusro. No other poet had ever produced such illustrious Astrological Poetry earlier to Ameer Khusro. Even after Ameer Khusro no poet has produced this type of Astrological Poetry, except Mirza Asadullah Khan Ghālib of Delhi who, after about 550 years of Ameer Khusro, adopted this art of Astrological Poetry in a marvelous manner surpassing even Ameer Khusro at places.”

Distant from the storm, a few interested individuals had observed the comet for science. They had the necessary wherewithal and technical expertise. We intend to discuss elsewhere the details of modern observations of Donati’s Comet made from India, which are important for the history of modern observational astronomy in India.

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APPENDIX



Donati's Comet, Oxford, 7:30 p.m., 5 Oct. 1858, by William Turner (1789-1862); <http://collections.britishart.yale.edu/vufind/Record/1666046> (adopted from Wikimedia Commons).

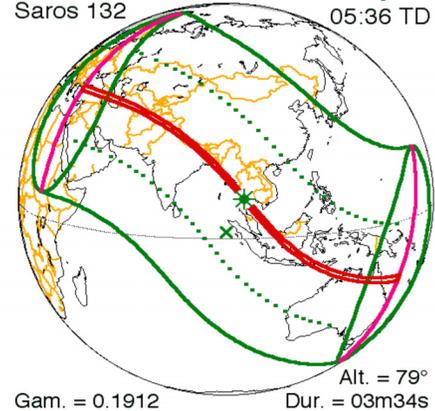


Photograph of Mirzā Ghālib; adopted from Prof. E. Frances Pritchett's website http://www.columbia.edu/itc/mealac/pritchett/00routesdata/1800_1899/ghalib/portraits/portraits.html



Bahādur Shāh II, the last Mughal Emperor of India (r. 1837-1857); portrait ca. 1854 (Wikimedia Commons).

Annular
Saros 132 **1857 Sep 18**
05:36 TD



Five Millennium Canon of Solar Eclipses (Espenak & Meeus)

1857, 18th September eclipse denoting the path of annularity (NASA Eclipse Web Site)

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