

**William Dunbar to Thomas Jefferson, August 22,
1801, from Thomas Jefferson and Early Western
Explorers, Transcribed and Edited by Gerard W. Gawalt,
Manuscript Division, Library of Congress**

William Dunbar to Thomas Jefferson

Natchez 22d August 1801

Dear Sir

I have delayed untill the present moment acknowledging the honor of your letter of the 12th Jan. last, from a Conviction of the impropriety of all trivial intrusion upon your time, always precious, but now dedicated to duties of the highest importance. However anxious I may be to express a due sense of your condescension, I shall ever guard myself against so impardonable an error. I shall therefore confine my communications soley to such objects as you have pleased to introduce into our Correspondence and such matters as have naturally sprung from them.

By the present occasion I have the honor of transmitting you a monthly recapitulation of meteorological observations for the year 1800; to which I have subjoined remarks calculated to convey some idea of the nature of our climate. I have also attended to a hint dropt in one of your letters respecting the Mississippi by preparing a short account of that river, but my copist having fallen sick, I am obliged to defer transmitting it untill next post.

i have some time since received notices of fossil bones discovered to the west of the Mississippi, and lately an intelligent french Gentleman, Commandant of the

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Opelousas, informs me, that at three different places of that Country, bones have been found which are supposed to resemble those of the big-bone-lick near the Ohio, and at another place he is well assured that in digging a well, a set of human teeth (la denture d'un homme) have been found at the depth of 30 or 35 feet. I have recommended to that Gentleman to set on foot a diligent investigation of those objects and if practicable to transmit me specimens of the bones, particularly a jawbone with its included teeth as little mutilated as possible. Should I prove so fortunate as to acquire the possession of any object worthy the attention of the Society, I shall take an early opportunity of presenting it. Mr. Nolan has formerly given me some intimation of fossil bones of great magnitude being found in various parts of New Mexico, but we have lately been cut off from our usual communication with that Country by the imprudence of Mr. Nolan who persisted in hunting wild horses without a regular permission, the consequence of which has been, that a party being sent against him, he was the only man of his company who was killed by a random shot. I am much concerned for the loss of this man. Altho' his eccentricities were many and great, yet he was not destitute of romantic principles of honor united to the highest personal courage with

energy of mind not sufficiently cultivated by education, but which under the guidance of a little more prudence might have conducted him to enterprises of the first magnitude. We hope the usual intercourse will be renewed, and I shall endeavour to prosecute our researches into the western Continent.

I have received some imperfect account from Mr. Nolan and his man who instructed us in the Signs, of an uncommon Animal having been seen by the Natives in a considerable lake in a sequestered situation in New Mexico. It is compared when somewhat elevated in the water, to the upper part of the body of a Spaniard with his broad brimmed hat, & that it is often heard to breathe or blow heavily. The Indians who are often Superstitious express a dislike or abhorrence of the place, seldom going near it, and assert that the departed Spirits of the first Spaniards who conquered their Country dwell in the lake. Mr. Nolan

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informed me that he was once very near that lake, but knew nothing of it untill some time after, when he was told the above circumstances. Whether we are to suppose this a fable invented by the Indians or that there really exists an Animal, perhaps the hippopotamus or a non-descript, will remain

the discovery of a future time.

In my last I gave you an extract from an old book in my possession, containing Dr. Hooks scheme of a telegraph in the year 1684, wondering that the invention of their Country man had not been claimed by the English, but I now find I have been anticipated in that communication by a paper in the 1st vol. of the Philosophical Magazine p. 312 London.

Your observation of a Lunar rain-bow is entirely new to me, but I have often observed a Phænomenon which seems to have been overlooked by Philosophers; it is slightly notice in Brydone's tour through Sicily and Malta vol. 1. p. 356 2d Edit. London. This Curious and beautiful phænomenon may be seen every fine summer's evening in this and perhaps in all other countries, when serenity is united to a Cloudless sky. It is caused by the prismatic effect of the atmosphere upon the Sun's departing rays. Soon after sun-set a belt of a yellowish orange Color is seen to extend itself along the eastern horizon; this belt ascends in the same proportion as the sun descends being about one degree in breadth; in contact with the first appears a second belt below, of a dark blue color & about the same breadth as the first, both belts being tollerably well defined and of an uniform Color throughout: when the double belt has risen a little above the

horizon, the azure sky may be seen below, and as they continue to ascend the belts become fainter, untill at length the prismatic rays meeting with no vapors Sufficiently dense to reflect their colors, the whole phænomenon dissolves into pale Celestial light; the belts disappear at about 6 or 7 of altitude. This phænomenon merits some attention; it exhibits as upon a skreen that Species of light, which after a greater angular dispersion, arriving at the moon's orbit, faintly illumines her disk during the time of a total eclipse.

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It would seem to result from the above appearances, that if a prism were formed of atmospheric air, the solar ray wou'd be separated thereby into two colors only, a yellow orange and a blue: it is known to Opticians that the Compound Color of orange and yellow and the Color which Newton Calls indigo comprise within themselves the seven primitive colors, that is, united they ought to form White. We ought not therefore to reject this effect of atmospheric air, because dissimilar to the prismatic powers of such diaphanous bodies as are best Known to us: modern experiments have Shewn that refracting bodies possess very different dispersive powers; and when we reflect upon the heterogeneous nature of our atmosphere, composed of at least three permanently elastic fluids, with the adventitious mixture of perhaps a hundred others, Subject from chemical afinity to perpetual resolution and composition, dissolving at all times a great proportion of aqueous fluid, and the whole pervaded by the electric fluid; shall we then presume to doubt that Nature has it in her power to compose a refracting body, whose dispersive powers are equal with respect to the red, orange, yellow & green making rays, and tho' greater with regard to the three remaining primitive colors yet perfectly equal among themselves.

I have the honor to be with the highest respect and Consideration.

Your most humble and most Obedient Servant, William Dunbar

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