http://criticalexplorationjournal.blogspot.com/2010/01/letter-to-galileo.html

# Monday, January 11, 2010

## Letter to Galileo

Dear Sr. Galileo,

I am most intrigued by your publication of Sidereus Nuncius and the exciting discoveries this new instrument, the telescope, has allowed you to explore. I find the discovery of new roaming bodies about the planet Jupiter of interest, especially given the speed you have observed with which they travel, much like our own moon, and some even faster. I wonder, as you have posited, how this fit into the grander scheme of the universe, and how further exploration will affect impressions of Copernican theory, and I look forward to your work on Two Systems to explain these expanding ideas.

I am also amazed by your descriptions of the moon's surface, and the many comparisons you make to the contours, and the way the light plays off of the ridges and valleys there much like it does off of the earth. You again draw parallels between the earth and moon when describing the light at dawn much like the light during a solar eclipse. In these pages (51-55), I find some confusion in the argument as to how the moon is lit as compared to the globe of the earth. You describe beautifully the face of the moon and the light it seems to eminate -- indeed I have often wondered about the glow of the moon seeming to exceed the diameter of the darkened parts of its globe -- but I have difficulty picturing the design of the earth, sun and moon that results in the patterns you describe. Perhaps this is to come in your discussion of Two Systems, in which case, I greatly look forward to this work. Alternately, a supplemental diagram of this alignment would help my understanding of your explanation.

Finally, I find the combination of your military compass and telescopic measurements to be a brilliant combination. I hope to further explore their workings and their compliments to one another.

Many thanks and the greatest respect,

LJ
Student

# Monday, January 11, 2010

## the moon: barely prior to sunrise`

The moonlight woke me again this morning at a similar angle through my open window curtains, a Cheshire-cat smile, angled upwards and to the right, and by the looks of the

ambient light, just an hour or so before dawn. I looked for the moon again this morning, but it may be that since it is now quite close to the sun (within a couple of hours rising time - I wonder how to translate this into angular degrees? Perhaps one of Galileo's devices allows for this) it is much more difficult to see during daylight hours. The proximity to the sun, I suppose, makes the moon light dimmer by comparison, and given that it is but a sliver of itself at the moment, it makes sense that it would be more difficult to see it.

What I wonder, and perhaps this is explained at a later point, is how Galileo was convinced, despite the ambiguity surrounding the Aristotelian model of the heavens, that the sun was not providing the moon's light. If he had considered this, wouldn't he have had more convincing evidence that the sun could not, in fact, be orbiting the earth? I wonder at this scenario not yet explored (thought perhaps it was, and I missed it because I was not yet thinking along these lines). I suppose, then, it occurs to me how easy it is to miss a possible connection, a possible explanation, if only you're looking in a slightly different direction. How simple to overlook something that might otherwise be obvious, if what you're paying attention to is adjacent to the explanation.

Hm.

# Monday, January 11, 2010

### telescope: aha! moment

I had wondered, during class, what connection there is between the range of view one can see (the diagram I had drawn on the board) and the focus of that view (the diagram Devon had drawn on the board). It occurs to me, looking at the various diagrams in Sidereus Nuncius, that the thing that connects them (or one thing, at least), is that they are both important factors that make the telescope work. It is possibly the combination of controlling the range of the view and the focus of it that makes the instrument such an innovation. Maybe they didn't have to be connected theoretically so much as linked together by the idea of this instrument. Then again, perhaps they are *also* linked theoretically.

# Saturday, January 9, 2010

### The moon

I woke this morning at 4:40 am to the light of the almost half moon shining through my window just above the curtain rod. Given my previous observations from last semester, it seems that this would be consistent with an approximate rising time of midnight. I shall observe again in the morning to see if the moon, even less than half this time, will be visible on the other side of the river.

I am still somewhat confused by the north and south aspects of its movement, so perhaps additional observations with this in mind will help to inform future hypotheses.

# Thursday, January 7, 2010

## Perspective Reflection

Instruments

While we've used several of the instruments in the images – string, frames, rulers, grids, mirrors – thus far in our experimenting, I am still not sure what each of the tools accomplishes. In theory, I understand the basic mathematical principles necessary to determine the necessary sizes for appropriate perspective, and yet it is still somehow beyond me to grasp how images are drawn with every point taking into account the concept of perspective. Additionally, I'm not clear on how the compass is used to assist in this process, though it makes sense to me that it must be useful.

I am intrigued not only by the process through which these feats were first accomplished, but also by the very realization that the process needed to be created.

How to know how to proceed in a time where he couldn't rely on physical proof, or a google search?

Galileo

The complexity of Galileo as a thinker, a learner and a strategist is of great interest to me. I am intrigued by his drive to learn, the confidence he must have had in his own ideas and the importance of them, even when they weren't accurate, and the strategy by which he pursued proof, published his work, and aspired to positions of great prestige. All the while maintaining responsibility for layers of family who relied on his support, both emotional and financial, and battling what seem to be chronic illnesses.

He seems to combine all of these facets of brilliance the same way his mind combined the many fields he explored and intertwined: arts, sciences, philosophy, and mathematics, all somehow appropriately connected by geometric lines in some sort of brilliant shining web of ideas.

Regarding our work:

It occurs to me to wonder if Galileo had in his mind something specific he was looking for, some goal or idea that guided his exploration based on the seemingly natural understanding he had of the world around him. His tendency towards observation may have fed this understanding, or it may have been that the understanding itself was innate, but whichever was true, it seems to have given his exploration a sense of direction that enabled his eventual success. I wonder at the day to day, minute to minute process, if his mind took detours and tangents and how far he followed them, and how much he learned

Columbus-style, perhaps unexpectedly on the way to another destination.

I notice in my learning process that I am not sure I have yet developed the patience to move forward without some degree of certainty as to what I am hoping to discover. Even if that concept is misguided, having a destination on the way to which I might discover valuable detours is of great help to me. I wonder at Galileo's path in this way, and what destinations he had anticipated on his roadtrip to discovery, without having had people to pave the way before him. If he gathered a literature review of all of the existing potentially related resources, if he learned it at university. If his knowledge was limited to what he had happened to encouter, or if he sought it out. If the times demanded that only a certain amount of information was available at all. How the limits of available information hindered - and perhaps helped - his process of discovery.

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