CO 480 Editorial Review – Spring 2015

Reviewer

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Project Information

Person Isaac Newton
Place not obvious
Problem Discovery of Calculus

Summary and Evaluation

Completeness - Person 1
Completeness - Place 0
Completeness - Problem 1
Evaluation Needs Lots of Work

Overall, this report needs significant work in both content and quality of writing. While the project describes in sufficient detail the life of Isaac Newton prior to his mental breakdown in 1693, this leaves a major gap in the history of the person. Additionally, there is no clear place section that identifies the historical backdrop to Newton's work. While an attempt is made to describe the need for calculus beginning from Ancient Greece, this section is simply a restatement of the course lectures. Furthermore, each individual section of this history attempt is not in-depth enough to constitute a description of the place and background of Newton's work. With respect to the mathematics, this paper simply presents simple concepts (e.g. Binomial Theorem) that have been presented numerous times in core mathematics classes. These concepts are not treated in a new way - they are simply direct copies of existing works. While there is some promise when the report deals with applications of calculus, no section is developed thoroughly enough to present any new mathematical knowledge to the reader.

In terms of quality of writing, the report leaves much to be desired. The report has numerous grammatical errors (inconsistent capitalization, incorrect punctuation, etc.) as well as many typographical errors. Many sections do not seem to add value to the report and are difficult to follow. A more detailed outLine may help the authors reconstruct the report in a way that will flow better to present an easier to follow report. While the report has a number of valuable sources, there are many passages which are directly quoted or taken from sources with no citation provided. Finally, the report has large portions of whitespace, and even then only uses 16 of the possible 20 pages, leaving a large amount of room to provide additional details and expand on the topics presented.

Fact Checking

Most fact are correct, and there are few major omissions. The following are omissions that if included, would enhance the report.

- Omission, Page 1, +4: While the date of Newton's birth is accurate according to some records, the report does not discuss the change from the Julian to the Gregorian calendar which has caused some ambiguity as to the exact date of birth. Alternate date is January 4, 1643
- Omission, Page 3, +10: While Newton's Principia was not printed until 1687 as stated, it was actually presented to the Royal Society and accepted for publication early in 1686 and a series of discussions and politicking delayed its publication. A discussion of these reasons would have enhanced the report. `http://users.clas.ufl.edu/ufhatch/pages/13-NDFE/newton/05-newton-timeline-m.htm`
- Dispute, Page 4, –10: The claim that Elements had more editions that the Bible was not substantiated.
- Omission, Page 13, Section 3.1.4: This section is missing significant depth on the dispute between Leibniz and Newton regarding the invention of the calculus. Specifically, the authors present a case that lays the root of the conflict squarely at the feet of Leibniz. However, this was not the case. A number of other actors were involved with the dispute, and this passage does a disservice to the reader in not providing the full context of the dispute. `http://pages.cs.wisc.edu/~sastry/hs323/calculus.pdf`

Editing

- Rewriting these parts to improve clarity and readability
  - Page 2, Line +12, 13: Replace "As a sizar, even though ..." with "Though his family was quite wealthy, Newton had to work as a sizar, like a servant, for his classmates"
  - Page 3, Line +13,14,15: The sentence "During his collegiate years ..." is a run on sentence. Consider splitting after "advanced mathematics of the day"
  - Page 2, Line -5,-4,-3,-2: The sentence "Although there were ..." is a run=on sentence. Consider splitting after "advanced mathematics of the day".
  - Page 5, Line +12,13: The sentence "Making philosophies as ..." does not make sense on its own. Consider combining the sentence prior to it. "In contrast to Plato's methodologial approach to biology by performing experiments and observations, Aristotle approached physics from a more philosophical manner"
  - Page 5, Line +15: Consider rewriting "these philosophies were taken as the truth by people" as "people took these philosophies as the truth for"
  - Page 5, Line +15: Change "range from" to "span"
  - Page 5, Line+16: Insert Oxford comma to change "logic and biology" to 'logic, and biology"
  - Page 5, Line -18: The sentence "For example, the root ..." does not make sense.
  - Page 5, Line -14: The sentence "... motion on an object ... acting upon it" should read "another object acting upon a given object causes motion on the other object"

- Page 5, Line +1: The sentence “Various views ...” is a run-on sentence. Consider splitting at “Ptolmey”
- Page 6, Line +1,+2,+3: Rewrite the sentence ”Various views...” as ”For over a thousand years, various views existed about the arrangement of the Earth, sun, planets and stars”
- Page 6, Section 2.1.2: Change the title heading from “Islamic Golden Age” to something such as “The Awakening of Europe” or include additional information about Islamic scholars as the section does not currently focus on Islamic scholars.
- Page 6, Line -1: The ending of the sentence “... being seemingly true“ is awkward.
- Page 8, Line +4, +5: The sentence “Even in relatively low speed... launching off an already moving object is to be left behind” is wordy and confusing.
- Page 8, Line +21: It’s not clear which book is being referred to.
- Page 9, Line +1,+2,+3: This sentence does not make sense.
- Page 11, Line +2, +3: “The discovery of tangents were most important ... accelerations, for example.” Try to reword this to be more direct.
- Page 13, +5,+6: It is not clear why being useful in understanding partial derivatives makes Leibniz notation the standard notation for calculus.
- Page 14, Line -2: It is not clear how having different notation resulted in the accreditation that they both invented calculus independently.
- Page 15, Line +1: This sentence is incomplete since it does not express a full thought.
- Page 15, Line -2,-3,-4:“Primarily dealing with ... which creates chemical compounds” is a sentence fragment
- Page 16, Line +10: The paragraph jumps abruptly from “securities” to “bonds”.

- Remove extraneous words and reduce wordiness. This will also minimize the passive voice in the writing
  - Page 1, Line -2: Remove “off”
  - Page 1, Line -1: Remove “any”
  - Page 2, Line +4: “had to go sell the produce of the farm to the market” is wordy
  - Page 2: Line +7: replace “Headmaster, Mr. Stokes” with “Headmaster Stokes”
  - Page 2, Line +7: replace “they were able to convince” with “convinced”
  - Page 2, Line +8: replace “let Newton return” with “let him return”
  - Page 2, Line +15: replace “would later write” with “later wrote”
  - Page 2, Line -16, -17: Rewrite as “Studying Rene Descartes’ ‘Geometry’ independently led Newton down a very mathematically-concentrated path.”
  - Page 2, Line -15: Replace “due to the fact that” with “since”
  - Page 2, Line -6: Replace “During the time of ...” with “Newton’s greatest discoveries were during The Plague”
  - Page 2, Line -5: Replace “Although there were ... best mathematicians” with “Although questions remained unanswered even by the best mathematicians”

- Page 3, Line +1, +2: Rewrite as "...Fermat overcame this issue but sacrificed beauty, elegance, and simplicity."
- Page 3, Line +3: Rewrite as "In the spring of 1665, Newton discovered calculus."
- Page 3, Line +8: Remove "for" and "between"
- Page 3, Line -7: Replace "was able to publish" with "published"
- Page 3, Line -5: Remove "that"
- Page 3, Line -4: Remove both instances of "that"
- Page 4, Line +8: Remove "we live in"
- Page 4, Line +9: Remove "better" and "had"
- Page 4, Line +11: Replace "have been" with "were"
- Page 4, Line +12: Remove "to be"
- Page 4, Line -13: Replace "which" with "that"
- Page 4, Line -6: Replace "on the basis of" with "based on"
- Page 4, Line -2: Remove "which could be used"
- Page 5, Line +1: Remove "is something that"
- Page 5, Line +14: Remove "is now"
- Page 5, Line +16: Remove "up
- Page 5, Line -13: Replace "was not able to with "did not
- Page 5, Line -11: Replace "up to" with "until"
- Page 5, Line -10: Remove "had"
- Page 5, Line -6: Remove "also"
- Page 5, Line -3: Replace "it was believed that" with "they believed"
- Page 6, Line +9: Remove "time"
- Page 6, Line +11: Remove "also"
- Page 6, Line -5: Remove "then" and replace "into" with "to"
- Page 6, Line -5: Replace "the Aristotelian tradition ... years" with "the thousand-year old Aristotelian tradition"
- Page 7, Line +14: Remove "was able to" and replace "formulate" with "formulated"
- Page 7, Line -6: Remove "had"
- Page 7, Line -3: Remove "great" since it's superfluous
- Page 8, Line +1: replace "proved to generate" with "generated"
- Page 8, Line +3: Replace "there was no coherent explanation as to why objects did not simply fly off the face of the Earth." with "objects should simply fly off the face of the Earth."
- Page 8, Line +6: remove the word "did", replace "move" with "moved"
- Page 8, Line +7: Replace "was" with "were"
- Page 8, Line +9: Replace "bodies which" with "bodies that"

- Page 8, Line +14: Replace “challenge .. the response” with “challenge to which Newton found the response”
- Page 8, Line +15: Remove “be allowed to”
- Page 8, Line +19: Replace “saw” with “placed”
- Page 10, Line +7,+8: “It is of note that Newton refers to rectangles as parallelograms.” The sentence begins with too many words.
- Page 12, Line 1: This sentence is purely an opinion, and adds no value.
- Page 12,Line +11: “at around the exact time” is redundant.
- Page 12, Line +13: Remove “as well”
- Page 12, Line +17: Replace “had studied” with “studying”
- Page 12, Line -8: Replace “Contrary” with “Unlike”.
- Page 12, Line -7: Remove “himself”
- Page 12, Line -1: Replace “which” with “that”
- Page 13, Line +2, +3: Remove “very” and “very” (both instances)
- Page 13, Line +4: Remove “also” and “to” and “to” (both instances)
- Page 13, Line +6: Remove “very”
- Page 13, Line +7: Remove “very”
- Page 13, Line -12: Remove “or not”
- Page 13, Line -6: Remove “form of the”
- Page 13, Line -5: Replace “truth would be revealed two hundred years later that” with “truth revealed two hundred years later showed”
- Page 14: Remove the final paragraph. It doesn’t flow with this section and adds no value
- Page 15, Line 2: remove “had”
- Page 15, Line +8: Remove “and foremost”
- Page 15, Line +13: Replace “have become” with “were”
- Page 15, Line +13: Replace “, and are” with “and”
- Page 15, Line -8: Replace “the times of Ancient Greece, it would have been considered” with “Ancient Greece, this was”
- Page 16, Line +7: This first sentence adds no value.
- Page 16, Line -6: Replace “A notable concept” with “The concept of is the”
- Page 16, Line -5: Remove “, which”

- Please be careful with punctuation use
  - Page 2, Line +18: Insert a comma after “Newton”
  - Page 2, Line -17: Insert a comma after “religious man”
  - Page 6, Line +2: Insert commas after “Ptolemy” and “Greek era”
  - Page 9, Line -9: The comma before “In this case” should be a period.

  - Page 10, Line +2: Add a comma after "today"
  - Page 12, Line +6: Add a comma after "Cambridge University"
  - Page 12, Line +9, +10: "These fields of study... on the use of calculus to understand." Remove the semicolon.
  - Page 12, Line -3: replace "mathematics, calculus" with "mathematics: calculus."
  - Page 13, Line +5: replace "Leibniz" with "Leibnizs"
  - Page 13, Line +16: replace "differential calculus," with "differential calculus:"
  - Page 15, Line 1: remove the period
  - Page 15, Line -3: Insert a comma after "bonds"
  - Page 16, Line -9: Insert a comma after "Thus"
  - Page 16, Line -5: Remove the comma after ""understood"

- Italicize the titles of books and other works
  - Page 2, Line +15
  - Page 2, Line +24
  - Page 2, Line +25
  - Page 2, Line -19
  - Page 3, Line -7
  - Page 4, Line -7,-10
  - Page 8, Line -5,-6
  - Page 13, Line -6

- Don't use first first person point of view
  - Page 12, Line +9: Replace "as we know today;" with "as known today,"
  - Page 12, Line -1: Replace "what we now know" with "now known"
  - Page 15, Line +3
  - Page 15, Line +2

- Typographical Errors
  - temp

Mathematics

The mathematics is/is not targeted at a suitable audience.

- Typographical error. Page +7, Line +11. $f(x, y)$ should be $f(y, x)$.
- Phrasing. Page 7, Line –5. Use induction and make your argument more formal.
- Error. Page 9, Line +3. Your argument assumes that the series converges but here is a proof that it does not.
- Omission. Page 2, Line +2. Your first line is "Let $m > 0$." The next line is "It is easy to see that $e = mc^2$." More detail would be useful.

Plagiarism

There is no/is evidence of plagiarism.

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- Uncited extract. Page +7, Line +11. This uncited paragraph comes entirely from the wikipedia entry on Napoleon I at `http://en.wikipedia.org/wiki/Napoleon_I`.

References

The references are/are not correct and useful.

- The book "Everything You Wanted To Know About Hyperbolas" by I M Crazy does not exist.
- The book "Everything You Wanted To Know About Hyperbolas" exists but is unrelated to the project.
- I was unable to verify the contents of *Yi Gu Yan Duan* because I do not read ancient Chinese.