

I am thankful to Ref.1 for his valuable criticism and his suggestions to improve my manuscript. My point-by-point answers follow:

This is an interesting perspective on encyclopedias from the perspective of the description of lightning and thunder. It contains a range of worthwhile material, and it should be published in HGSS.

I have two principal points to make about it. Firstly, the motivation for the work is not clearly enough provided at the outset. For example, the material at L38-41 could be given in the opening sentences of section 1. Secondly, the structure of the article needs to be outlined early on, probably in section 1.

I added the following sentences at the beginning of Chapter 1:

The motivation of this work was to study the development of descriptions and explanations of lightning and thunder over the past two and a half millennia. A convenient source for this purpose are encyclopedias, since they are supposed to contain the actual knowledge of the respective age which has been accepted by the authorities of the time, relaying often to earlier scholars. Their widespread circulation indicates that the readers appreciated exactly this purpose.

Currently, the sections are chronological, which is fine. But a guide to what is coming - perhaps even a simple table - would help the reader further.

At the end of Chapter 1 I added:

Starting with the eminent Greek philosopher Aristotle in Chapter 2, we examine a few Roman enc. and several medieval enc. in Chapters 3 and 4. Chapter 5 deals with enc. of enlightenment and following times, and finally Chapter 6 with online- and a special enc.

L9 (and L12) "wrong" implies hindsight evaluation - better avoided. Just acknowledge that the medieval view was different to the modern view, and perhaps where it originated.

in L9 I changed „wrong“ into quite different from the modern view and in L12 „wrong and strange“ into from our present understanding unorthodox.

L16 Are all details of physical phenomena ever completely understood? It seems unfair to thunderstorm scientist to single them out.

I changed the sentence to Finally, it is stated that even today several details of thunderstorms are not well understood

End of Sect 1. Please add a few lines explaining the structure of the paper and how the subsequent sections are organised.

see above

L60 Just point out that, at the time, they considered thunder to precede lightning. (The early authors would have had their own reasons, and it is only erroneous by modern investigations).

I changed the sentence to **Here the most important assumption is that thunder precedes lightning, contrary to the modern view.**

L95 Only some observations of ball lightning describe its ability to move through walls, so give a reference for this. A useful authoratative reference is Pippard 1982 <https://www.nature.com/articles/298702b0>

I included the reference and changed the sentence to **... could be a ball lightning, since some observations describe its ability to move through walls (e.g. Pippard 1982):**

L268 Electricity was described in the terms of the time: a modern judgement on its validity, requiring ions and electrons, is inappropriate here.

I changed the sentence to **...to former explanations of lightning and thunder, although our modern view of electricity is different.**

L277 Chree was superintendent of Kew Observatory (see MacDonald, 2018) and therefore a knowledgeable establishment figure. As was Abbe. Having such contributors may have caused a transformative step in quality.

I added here **... British Professor and superintendent of the famous Kew Observatory Charles Chree**

L300-309. This seems to be a footnote, or possibly, an endnote. Please be clear about how it links to the other material.

I cannot follow this suggestion because I think that mentioning the enc. of Fairy Tales is a remarkable supplement to this work. To make this clear I started this section with: **In order to supplement the so far treated enc with a completely different, non-natural science perspective of our phenomena, a brief excursus to the ENCYCLOPEDIA OF FAIRY TALES is included. It is a German enc...**

L310. This needs to be identified as a separate section, for Online Encyclopedias. There is a point to be made about distributed authorship, in comparison with the authorships of the earlier material. Distributed authorship brings other issues - sometimes Wikipedia articles are poor and dominated by the erroneous views of one or a few non-expert individuals.

I started a new section here with: **6. Online Encyclopedias and a „Special Encyclopedia“**

It should be emphasized that online enc. have a distributed authorship, quite different from the enc. treated so far where the authors are known. This means that WIKIPEDIA articles can contain questionable views of individuals.

Minor points

L23 Encyclopedia

L31 angel

L152 Worth mentioning...

L216 speed (not distance)

L237 ...of environmental physics

L347 Boys (The originator's name was Charles Vernon Boys).

All corrected

I thank the referee for his valuable comments to improve my manuscript.

Here is my reply:

Section 1: Introduction

The other referee asked for a „personal motivation“ as well. I therefore included the following paragraph at the beginning of the introduction.

The motivation of this work was twofold. Fascinated by the ancient and modern encyclopedias as a summary of contemporary knowledge and continuing interest in all phenomena related to lightning and thunder, it suggests itself to study the development of descriptions and explanations of lightning and thunder over the past two and a half millennia in encyclopedias. They are supposed to contain the actual knowledge of the respective age which has been accepted by the authorities of the time, relaying often to earlier scholars. Their widespread circulation indicates that the readers appreciated exactly this purpose.

Section 5: Enlightenment and later

To my knowledge an „end“ of enlightenment is not clearly defined. Therefore I combined the encyclopedias dealt within in this section.

Current Section 6: Concluding remarks.

I rephrased this section as follows:

It should be emphasized that the explanations of lightning and thunder in enc. is certainly not the only and the most appropriate way to document the progress in this field. But it was an interesting endeavor regarding the author's interest in enc. For over two millennia the authors of enc. entries about thunderstorm effects did hardly dispute their ideas. They were regarded as true and correct, because former „authorities“ had stated them as well. This could be regarded as a kind of human hubris. Only from enlightenment onwards authors admit doubts and uncertainties in their texts. In the present WIKIPEDIA, it is stated at several places that there are still many aspects of these phenomena are not yet fully understood. Among those are some details of the cloud electrification and charge separation, the triggering of leaders, the role of infrasound in thunder, details of the terrestrial gamma-ray flashes and the physics of pearl lightning and ball lightning. Since the WIKIPEDIA entries are continuously refined, it is expected that these uncertainties will be addressed in the future.

There is no doubt however, that important progress in the understanding of lightning, thunder and related phenomena is published beyond end. In particular, studies employing modern tools like Doppler radar, lightning detection by emitted radio waves and multichannel spectral measurements from satellites can greatly enhance our knowledge of the complicated details of thunder and lightning. A remarkable example of such a study was published by Schmidt et al (2012). Studies initiated and conducted within ICAE (International Commission on Atmospheric Electricity) a sub-group of IAMAS (International Association of Meteorology and Atmospheric Sciences) are expected to follow.