

STEM Society Meeting, May 11, 2010

James Emery

05/31/2010

Contents

1	The Meeting Location, Time, and Topics	1
2	About the STEM Society and the STEM Society Website	2
3	Meeting Notes	3
4	Amateur Radio and the Digital Mode, <i>Joel Kershner</i>	3
5	The Scientific method, <i>Jim Emery</i>	3
6	The Generalized Empirical Method, <i>Greg Hodes</i>	4

1 The Meeting Location, Time, and Topics

The May meeting of the STEM Society took place on the second Tuesday of the month, May 11, 2010, at the Trailside Center at 99th and Holmes in Kansas City, Missouri. The starting time was 6PM.

I recently came upon an old issue of the California Institute of Technology magazine "Engineering and Science", October 1980, and an article by Judith and Davis Goodstein titled "The Scientific Method." This prompted me to consider having a discussion on the scientific method and whether scientists really use it. Science fairs put emphasis on the scientific method and require that participants follow the steps of the method, so as to suggest that if these steps are followed accurately truth results. However, the usual results found at science fairs, and results found in elementary physics

labs, taken by themselves, would refute much of classical science, and call into question the scientific path to truth. Science fairs are no doubt a good educational experience, but conceivably could lead to the participants questioning the validity of science. I suggest that everyone read the Wikipedia article "Scientific Method" to prepare for the discussion.

Joel Kershner talked about Amateur Radio and the various digital ways of sending information.

If there had been any time left I might have raised some topics in Linear Algebra, Functional Analysis, and maybe talk about some of the history of these subjects.

The Stem Society WEB link is:

<http://stem2.org/>

2 About the STEM Society and the STEM Society Website

STEM is an abbreviation for Science, Technology, Engineering and Mathematics. There are about 60 people on the mailing list, although usually a much smaller group attends any one meeting. We meet on the second Tuesday of each month at the Trailside Center at 99th and Holmes in Kansas City, Missouri. The meetings are open to all. We make presentations, have discussions, and sometimes have scientific demonstrations. The topics range from General Relativity to scientific experiments for kids.

The set of meeting notes may be viewed by going down the list of notes appearing on the front page of the site. These notes contains links to documents, which may be viewed or downloaded by clicking the link. Other documents can be reached by clicking the heading "Documents and Downloads" that appears on the left side of the front page. Then click on "documents." The meeting notes may also be viewed in an archive file in the list of documents. Most of the documents are PDF files. They may be viewed or downloaded to the computer by clicking, provided Adobe Reader is present, or another program capable of reading PDF files. There are often more documents available at the site than are listed under "Documents" because they may not have been added to the documents.htm file yet. The web site is at

<http://stem2.org/>

To go directly to the "Documents" list:

<http://stem2.org/je/documents.htm>

3 Meeting Notes

Joel Kirshner gave a talk on Amateur Radio and the Digital Mode. There was a lot of interest in the talk.

We had a discussion about the scientific method.

Greg Hodes gave a talk on the Generalized Empirical method. He started his talk with a discussion of Plato's dialog Meno and the problem of constructing a square of double the area of a given square.

<http://en.wikipedia.org/wiki/Meno>

This illustrated according to Greg that everyone naturally wants to know, and that learning takes place only when this desire is made manifest. Greg went on to discuss the Generalized Empirical method in more detail and how it relates to the scientific method.

4 Amateur Radio and the Digital Mode, *Joel Kershner*

Informative resources:

<https://docs.google.com/Doc?docid=0AdEyX8sSjmYHZGNtMnIOYzhfMTA5ZjhYeGpuZmo&hl=en>

Presentation:

<https://docs.google.com/fileview?id=0B9EyX8sSjmYHM2E3Njk0MzMtMTgyNC00M2EzLTlhMDMtODEzMzg5MWNiNzg4&hl=en>

5 The Scientific method, *Jim Emery*

<http://stem2.org/je/scientificmethod.pdf>

6 The Generalized Empirical Method, *Greg Hodes*

The natural world is what is or could be known by the intelligent application of the scientific method. Reality in general is what is or could be known by the intelligent application of the method of intelligence.

AN EPISTEMOLOGICAL EXPERIMENT

- Knowing something
- Knowing knowing
- Epistemic generalization of above: Theory L
- Proof.
- Unrevisability claim
-Proof.
- Ontological generalization of above
- Proof.
- Locus of method: Rational self-appropriation