

A Philosophy of Learning

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ABSTRACT

The survival of the *homo sapiens sapiens* species depends upon learning and passing on to future generations quality knowledge. Yet, we find to an increasing extent a corruption of the process, resulting in ignorance, environmental destruction, and breakdown of community. A fundamental shift in priorities is required to avert disaster. Articulating a solution depends upon a language, which, in turn, depends upon clarifying concepts. This paper identifies the dialectical (something existing because of what it is not) interrelationship of episteme (theory) and techné (practice) within the framework of ethos, pathos, and logos. This structure and process as learning provides coherence in developing knowledge and can then be what in a generic sense is religion (to cohere, or bind). In a monk-like devotion to learning to generate quality knowledge humanity can appreciate its own meaning and make this world a better place in which to live. In this way religion becomes philosophy, and philosophy religion.

Keywords: Learning, Education, Knowledge, Philosophy of Education, Philosophy of Knowledge, Philosophy of Religion.

1. INTRODUCTION

If a survey of the literature on peer review is any indication of learning quality, the *homo sapiens sapiens* species is in trouble. Its ability to pass on knowledge is deeply compromised, and corrupted knowledge may affect the species' very existence. For example, if medical literature is fraught with inaccuracy about how to stem epidemics or treat various illnesses, whole populations face survivability issues. Yet, we see an emerging body of literature that suggests that not only is there corrupted information but the system charged with creating and passing on knowledge to future generations, itself is corrupted. To survive this species needs to value both the content and the vehicle carrying it. In particular, we are referring to the content of terms like “academics”, “education”, “training”, “learning”, “schooling”, “knowledge” and related terms.

Set forth in this paper is the view that many people are ambiguous at best when they refer to these terms and that by a deeper understand of what they entail and a will to carry out their meaning as the content of learning, this species will have a better chance of carrying on. At one of the conceptual spectrum is “learning or learning's sake”. At the other is learning for application, as in doing a task, where there is often a measurable outcome. We often talk about these ideas as if both our audience and we know what they are, but one should re-examine from where many get their understanding.

Use in the literature provides some context, but a common beginning is in our first exposure to new terms through various dictionaries and ostensible standards of usage. Yet, there is ambiguity in the terms like “education”, and this creates disorder in the way we pass on to our offspring both our views on who we are and why we exist, as well as how we convey these ideas. Analogous to DNA replication, if a disruption occurs in the primary strand, the succeeding generations will be compromised. The problem occurs not so much in the content but the process, itself. Our ability to communicate depends upon being able to

convey meaning through a consistent use of a word. That is, the content represented by that word must be the same from communication to communication and among all persons using that word. Evidence of consistent use is history, i.e., etymology, and for it I rely for my case that we often don't know what we are talking about when discussing what learning is, let alone its purpose or how we should go about doing it. Once the common thread of meaning has been identified, I will show that learning is a recursive process, where particular knowledge exists in terms of general knowledge, and vice versa. Once this is established we as humans may see learning (theory and practice) as a part of our being, the way we are able to survive by passing our ability to thrive and our essence to future generations. The thesis, then, is that our passion should be the desire to acquire knowledge and convey it to others, but we have to know what we are talking about before this happens.

2. ORIENTING OURSELVES TO THE CONTENT OF WORDS

The object of learning is knowledge, but what is knowledge and how is it obtained? (Note that knowledge quality depends upon epistemology, or how we know something. Philosophers call it “justified belief”. Exploring the details is a discussion related to but separate from the immediate scope of this paper.) It is often said (dictionaries being evidence) that gaining knowledge is through “education”, as in “information, understanding, or a skill that you get from experience or education”. One refers to “...a familiarity, awareness or understanding of someone or something, such as [facts](#), [information](#), [descriptions](#), or [skills](#), which is acquired through [experience](#) or [education](#)” [1], and “[Facts](#), information, and [skills acquired](#) by a person through [experience](#) or [education](#),” [2], “education” being a common operative word.

Yet, education is only one aspect of learning. [3]. Why?

“Education” variously defined is:

the process of receiving or giving systematic instruction, especially at a school or university. [4]

the action or process of teaching someone especially in a school, college, or university

the knowledge, skill, and understanding that you get from attending a school, college, or university

a field of study that deals with the methods and problems of teaching [5]

The process of [receiving](#) or giving [systematic instruction](#), especially at a school or [university](#): *a new system of public education* [6].

The common denominator of these mainline sources is the word “process”, that process being teaching, or instruction. That which is being taught is less defined, the second definition talking about “knowledge, skill, and understanding “. The Oxford dictionary refers to “A [body of knowledge acquired](#) while being [educated](#): *his education is [encyclopedic](#) and [eclectic](#)*” and “information

about or [training](#) in a [particular](#) field or subject". The words "training" and "skill" suggest an identifiable field of information that can be passed from person to person with little or no change of content. Yet, there appears to be missing an answer to how this information is developed. In searching for and scrutinizing associated words for an answer, we see "academic" and its derivatives, "academic" variously defined as:

usually used before a noun : of or relating to schools and education

having no practical importance : not involving or relating to anything real or practical

a person who is a teacher in a college or university [7]

adjective

1. of or pertaining to a college, [academy](#), school, or other educational institution, especially one for higher education:

academic requirements.

2. pertaining to areas of study that are not primarily vocational or applied, as the humanities or pure mathematics.

3. theoretical or hypothetical; not practical, realistic, or directly useful:

an academic question; an academic discussion of a matter already decided.

4. learned or scholarly but lacking in worldliness, common sense, or practicality.

5. conforming to set rules, standards, or traditions; conventional:

academic painting.

6. acquired by formal education, especially at a college or university:

academic preparation for the ministry.

7. (initial capital letter) of or pertaining to Academe or to the Platonic school of philosophy. [8]

Of or relating to [education](#) and [scholarship](#):

Of or relating to an [educational](#) or [scholarly institution](#) or [environment](#): *students resplendent in academic dress*

1.2(Of an [institution](#) or a course of study) placing a greater [emphasis](#) on [reading](#) and study than on [technical](#) or [practical](#) work: *an academic high school that prepares students for the best colleges and universities.* [9]

The commonality here is that "academic" refers to education occurring within the confines of a structure, such as a set of rules, institution, or school. We are at full circle, save for the reference to "theoretical or hypothetical", a breakaway from the persistent reference to "education", or a well-defined set of information. Perhaps by looking at the customary usage throughout recent history (i.e., the etymology) we may see why there is this persistence.

Education as a process occurs within a framework or environment of what we call "academia". To adhere to a consistent, hence historical use of the term, we turn to the etymology, "education" being:

"A breeding, a bringing up, a rearing") from [ēdūcō](#) ("I educate, I train") which is related to the [homonym](#) [ēdūcō](#) ("I lead forth, I take out; I raise up, I erect") from [ē-](#) ("from, out of") and [dūcō](#) ("I lead, I conduct")" [10]

Within this history one finds the seeds of a debate about the nature of that leading, or conducting, and the very nature of that leading, itself. An analysis of this etymology focuses upon:

- breeding, bringing up, rearing
- training
- erect
- lead.

One may picture a scenario – not unlike that depicted in the novel *Brave New World* - the manufacture of humans, standing them up like robots, infusing them with a circumscribed set of facts and procedures, pulling them off an assembly line, and shoving them forward to perform their programmed routine. Given this post-industrial world, such is not surprising. In the *Brave New World* philosophy was discouraged, as free thinking was regarded as disruptive and straying from the regularity of a regimented (albeit ostensibly stable) society. Not much in the etymology of "education" allows for the individual to explore on her or his own the world and discover truths for that individual's benefit. Rather, a leader infuses the person with information (training) to then be in turn transferred to successors. Keeping such a view of education in mind, we now turn to the context in which "education" occurs, academia.

Historically, "academia" means:

1580s, "relating to an academy," also "collegiate, scholarly," from Latin *academicus* "of the Academy," from *academia* (see [academy](#)). Meaning "theoretical, not practical, not leading to a decision" (such as university debates or classroom legal exercises) is from 1886. [11]

One can see the radically two different situations here. The first, "education" emphasizes a particular, training, the identification and conveying of particular information, or etymologically, "to train" meaning:

"to discipline, teach, bring to a desired state by means of instruction," 1540s, probably from earlier sense of "draw out and manipulate in order to bring to a desired form" (late 14c.), specifically of the growth of branches, vines, etc. from mid-15c.; from [train](#) (n.). [12]

The key words are "desired form", referring to a specified end, rather than one being exploration and indefinite.

On the other hand, the etymology of "academic", the framework holding the conveying of specific information in "education" is "...theoretical, not practical, not leading to a decision" ". Hence, "education" occurring in the "academic" world means having a person acquire specific information in an open-ended manner, i.e., without restriction.

One may argue that the survival of a species rests on the ability to pass to offspring the lessons learned in surviving this planet's environment. *Homo sapiens sapiens* is included, but a central difference between us and the rest of the species is how we regard the process and our ability to characterize its direction. An animal may find in the environment an object to be used as a tool, but the human will be able to identify what is need to be done, and not only design, make, and use that tool, but explain the theory of its design and operation. The following presentation occurs within this relationship between the education regarded as training and the structure holding it, academe.

3. THE NATURE OF OURSELVES BEING EDUCATED AND TRAINED

A central difference between animals and plants is the ability to abstract and apply that abstraction. Even insects, such as ants [13], have the capacity to store information and to anticipate, as

they collect food for their nests. Various species react to threats, “knowing” the consequences of not doing so. As species become more complicated on an evolutionary scale, these processes become more sophisticated. With the simple species, we speak of basic biological structures, such as ganglia; in the complex ones, there are brains, but other structures, such as dendrites and astrocytes may be involved as repositories and processors of information [14]. There is a danger, however, of identifying a physical structure storing and processing information and the information, itself, resulting in the classical debate about a mind being apart from a body, “I,” that is to say, the mind by which I am what I am, is wholly distinct from the body“ [15].

An extensive discussion can emerge about why episteme is “food for the mind” and techné “food for the body” – satisfying physical needs), but , for the purposes of this paper, it argued that learning involves both. It is not on this ground that the argument is primarily made, but that each relies on the other for its existence and both as a “package” constitute the substance of learning. Such has implications for what occurs in the academic arena.

4. THE FRAMEWORK WITHIN WHICH LEARNING OCCURS

Our species attempts to perpetuate itself, either “innately” or by desire. For us, at least – *homo sapiens sapiens* – there seems to be for the most part a need for improvement, that need being translated into the process of learning. Humans must care enough about themselves to love knowledge because they recognize they need it to survive. Ignoring that need is suicidal. In mature cases, this knowledge is wisdom, the essence of philosophy. Indeed, to deny such means denying that we are sapiens, those who are “wise” [16]. “I ask if there is a passion (feeling, or pathos) to continue our being. The direction to which the acquisition of knowledge (and wisdom) and its application leads is through the word, content bearer, or logos. The reason why is ethos.

More formally, we can articulate:

- **Ethos** : credibility in the process of communication
- **Pathos**: adequate emotions in the process of communication and motivation for information and knowledge sharing
- **Logos**: via technical and natural language, as well as the use of adequate Logics [17]

In keeping with our method of discerning meaning, as described above, we examine the etymology of each of these terms.

Ethos

Etymologically, ethos is:

ethos (n.)

"the 'genius' of a people, characteristic spirit of a time and place," 1851 (Palgrave) from Greek ethos "habitual character and disposition; moral character; habit, custom; an accustomed place," in plural, "manners," from suffixed form of PIE root *s(w)e- third person pronoun and reflexive (see [idiom](#)). An important concept in Aristotle (as in "Rhetoric" II xii-xiv). [18]

Ethos ([/i:θɒs/](#) or [US /i:θoʊs/](#)) is a [Greek](#) word meaning "character" that is used to describe the guiding beliefs or ideals that characterize a community, nation, or ideology. [19]

One may regard Ethos as referring to the “credibility in the process of communication”, “credibility”

etymologically being “credo”, or truth. This stems from the Greek idea of virtue, or – from veritas, or true. [20]

Pathos

pathos (n.)

"quality that arouses pity or sorrow," 1660s, from Greek pathos "suffering, feeling, emotion, calamity," literally "what befalls one," related to paskhein "to suffer," and penthos "grief, sorrow;" from PIE root *kwent(h)- "to suffer, endure" (cognates: Old Irish cessaím "I suffer," Lithuanian kenčiu "to suffer," pakanta "patience"). [21]

Logos

logos (n.)

1580s, Logos, "the divine Word, second person of the Christian Trinity," from Greek logos "word, speech, discourse," also "reason," from PIE root *leg- "to collect" (with derivatives meaning "to speak," on notion of "to pick out words;" see [lecture](#) (n.)); used by Neo-Platonists in various metaphysical and theological senses and picked up by New Testament writers. [22]

Each of the ensemble of ethos, pathos, and logos works dialectically to produce the whole: one motivated (pathos) with the truth of the desire for learning (ethos) and communicating (logos) to other members of the species.

Recall that etymologically, education (training) occurs within the framework of the academic (learning without a specific objective – learning for learning's sake).

5. THE CONTENTS CONTAINED BY THE FRAMEWORK

We return from the discussion about the interrelationship between academics and education, the former as theory and the latter as practice, each existing because of the other. The etymology of the constituents of learning: episteme and techné.

Episteme

...etymologically derived from the Ancient Greek word ἐπιστήμη for knowledge or science, which comes from the verb ἐπίσταμαι, "to know". In Plato's terminology episteme means knowledge, as in "justified true belief", in contrast to doxa, common belief or opinion. The word epistemology, meaning the study of knowledge, is derived from episteme. [23]

Techné

“...etymologically derived from the Greek word τέχνη (Ancient Greek: [tékʰnɛː], Modern Greek: [ˈtɛxni] (listen)), that is often translated as "craftsmanship", "craft", or "art".” [24]

"Episteme” pertains to theory and techné to practice, an example being science as theory and technology as practice. Episteme is synthesis; techné is analysis. Synthesis is the bringing together disparate ideas by a means unknown to us to form a new idea. Analysis is the breaking down of a whole into its constituent parts. From a logical standpoint, the former is inductive, the latter deductive. Induction yields conclusions that are not certain, because we cannot account for how we form the premises from which we draw the conclusions. With deduction we can identify in a specific way the premises on which a conclusion is based. Neither induction nor deduction is by itself sufficient to

apprehend the meaning of anything. Each exists because of the other dynamically.

6. THE MOST FUNDAMENTAL LAW OF PROCESS

We arrive at what appears to be two polar opposites – theory and practice, or episteme and techné operating within the framework of ethos, pathos, and logos. To derive any concept of these relating to each other, there has to be process. Ancient accounts of the two, such as by Plato, have philosophers seeming to use the two interchangeably [25]. “Theory” is a concept relating to the general, and “practice” refers to specifics. For an application, one needs a theory, but for a theory to have any relevance to a present situation, there needs to be an application to give the theory a worldly meaning. There is a philosophical foundation that describes this relationship of one existing because of the other: dialectics. There is a physical reason for dialectics.

One may picture her/himself in a room that is entirely of the same color of blue. Visually the person will not be able to discern one object from another. Other senses, such as touch, sound, or smell may detect those objects, however, meaning that on a fundamental level it takes differentiation to allow us to detect anything.

Something exists by virtue of what it is not; theory exists because of practice, and practice exists because of theory. One entity is in terms of another, and this “back and forth” way of understanding is a process, the dialectic process. Learning, then, is the process by which a motivated (pathos) individual desires as the best this species has to offer (ethos): to communicate (logos) knowledge as theory (episteme) in terms of (dialectics) practice (techne) and vice versa.

7. WHAT LEARNING FACES

The world of learning is at a critical juncture. Learning is not only for its own sake, but the way we apply it will determine whether we can address problems like environmental degradation, overpopulation, and resource allocation, all challenges to our species, itself. One can argue successfully that learning has become denigrated, priorities being in other areas. Classroom sizes, curriculum content, funding for education, and the desire for learning for its own sake are considerations secondary to paying sports figures millions of dollars, “entertainment”, and purchasing superfluous consumer items. The paucity of basic knowledge is reflected in figures reflecting scientific illiteracy [26] and reading deficiencies, where “50% of adults cannot read a book written at an eighth grade level” [27].

The status of peer review is symptomatic of a species in trouble. Fang et al reported in 2012 that “67.4% of retractions were attributable to misconduct” [28]. Fraud, data manipulation, and plagiarism are major factors, and the pressure by academics to publish contributes, as well. The inclination to produce quality knowledge is secondary. In manuscript preparation, there are numerous freelance writing websites that offer customized research papers for students to pass in as their own assignments for courses. An Internet search under “purchase term papers” and related phrases yields numerous websites, such as “[Buy Research Paper Online | 100% Original | Professional](#)”, “[Buy Essay & Research Paper Online, Custom Essay Writing ...](#)”, and “[Buy College Essays, Custom Term Papers](#)“, this last one advertising “High quality custom essays crafted by real unemployed professors [29].” The fraud and plagiarism do not stop at purchasing manuscripts. Diploma mills are a standard route to obtaining a graduate degree, one case merely requiring the purchaser to “Take a test” [30].

If there is not a prioritization of learning, how can it be expected that there will be quality peer review? Sustaining knowledge quality is not first on the list of priorities in the US. Clearly, there has to be a re-ordering of what is important.

8. LEARNING AS RELIGION

In tying together all of what we said, pathos is that motivation behind humanity taking a high road ethos to figuratively speak the word of knowledge. From within a person is the emotion, the motivation that impels her or him to express via the word an ethos. Ethos (the values – what is important) is “generated” from the pathos (the being inside us, the motivation, the drive) via the word (logos, or process – remembering the dialectic between the concepts the word conveys – episteme and techné). Pathos, is the state of mind, the motivation for acting as a species differentiated from the rest, as stated above, “our the process and our ability to characterize its direction”. One last question remains about what the philosophy of learning entails.

This is not an appeal for persons to be religious – at least in a popular sense. However, inasmuch as the vast majority of the population are believers in a religious ideology [31], it would seem reasonable to introduce the love of wisdom as an unshakable value system. These figures reflect a growing uneasiness that the traditional ideologies are not satisfying answers to what the meaning of life entails. Ideologies as systems of ideas provide coherence. In its broader sense, religion is about coherence, as the etymology indicates.

...(from O.Fr. religion "religious community," from L. religionem (nom. religio) "respect for what is sacred, reverence for the gods," "obligation, the bond between man and the gods") is derived from the Latin religiō... One possibility is an interpretation traced to ...Tom Harpur and Joseph Campbell favor the derivation from ligare "bind, connect", probably from a prefixed re-ligare, i.e. re (again) + ligare or "to reconnect," which was made prominent by St. Augustine, following the interpretation of Lactantius. [32]

This approach allows for a transition from a reverence of rigid set of ideas to a reverence of the process of attaining knowledge. It has not been a focus of this paper, but no less important is the quality of knowledge, or what philosophers call “epistemology”, justified belief. Western history provides a model of one engaged in this process.

One may often regard the Medieval monk cloistered in a monastery praying daily and living the life of an ascetic. While this may be true, such is only a superficial description. A monk was a devoted person, again, superficially committed to the content of Christian scriptures, but underlying this behavior was a devotion to something more profound – attempting to discern meaning, or coherence in life. It was an attitude, a way of being in the world. Rather than orienting life's activities to acquiring material things, there was a sense of living outside this world. A similarity exists in South Asian religions, where Hinduism and Buddhism reject the importance of the material life and focus on what is more lasting, variously referred to as “Nirvana”, “karma”, “the one”, and so forth. It matters little about a particular description, merely the scope of focus – long, as opposed to short term. What religion concerned was understanding not only one's core (the particular), but the context in which that core rests (the general), the relation being a reflection of that innate structure about which we have been observing through our whole discussion. Learning (the dialectic between the academic and education, if we are to adhere to the

etymology, has as its pathos the desire for coherence, its ethos as virtue (being the best that we are capable of doing as humans – learning about meaning), and the logos (conveying knowledge) – in coming full cybernetic cycle - as telling the species that our very being is about our need to learn.

9. CONCLUSIONS

A pattern of arrangements has emerged in all this, one analogous to induction-deduction, the particular in terms of the general, the one contradistinguished from everything else. Often, apparently disparate ideas coalesce into a single observation about life overall. Such argues for innate structures and accompanying processes permeating our world. For example, ancient philosophers in South Asia identified 4500 years ago in The *Creation* hymn in the *Rig Veda*, "Whence all creation had its origin, he, whether he fashioned it or whether he did not, he, who surveys it all from highest heaven, he knows--or maybe even he does not know. [33]" For Samkhya, the oldest form of Hinduism, the soul (purusha) is counterpoised against matter (prakriti), one in terms of the other; neither has it own identity in isolation. In the West, it is the dualism of mind and matter. In the Samkhya philosophy, everything started with an eternal unconscious as the universe and from it unfolded everything we have today. A modern version is the Universe emanating from the singularity. From a whole emerges diversity, a law of cosmic order (*rta*), according to the *Rig Veda*. In the Vedic view [34], creation comes from the self-consciousness of the primeval being (Purusha) that modern philosophers of consciousness could equate with the Universe, the Universe, itself, being conscious [35].

A world emerging from the inchoate also is told of in ancient Western philosophy. Hesiod (ca. 750 and 650 BCE) wrote of everything being born of chaos [36]. Others, such as Anaximander (c.610—546 BCE), stated, "...some other nature which is indefinite, out of which come to be all the heavens and the worlds in them.[37]" Lucretius (ca. 99 BC – ca. 55 BC) said that without differentiation there could be no harmony, i.e.:

In that long-ago
 The wheel of the sun could nowhere be discerned
 Flying far up with its abounding blaze,
 Nor constellations of the mighty world,
 Nor ocean, nor heaven, nor even earth nor air.
 Nor aught of things like unto things of ours
 Could then be seen--but only some strange storm
 And a prodigious hurly-burly mass
 Compounded of all kinds of primal germs,
 Whose battling discords in disorder kept
 Interstices, and paths, coherencies,
 And weights, and blows, encounterings, and motions,
*Because, by reason of their forms unlike
 And varied shapes, they could not all thuswise
 Remain conjoined nor harmoniously
 Have interplay of movements.* But from there
 Portions began to fly asunder, and like
 With like to join, and to block out a world,
 And to divide its members and dispose
 Its mightier parts--that is, to set secure
 The lofty heavens from the lands, and cause
 The sea to spread with waters separate,
 And fires of ether separate and pure
 Likewise to congregate apart [38]. (emphasis added)

This most fundamental relationship is the unity of everything. It is what the ancients realized, and modern scientists realize it, as well. Once that realization is attained, there remains only an inner calmness.

12. REFERENCES

(All websites accessed 4-5 December 2014 – title of entry found within URL)

- [1] <http://www.merriam-webster.com/dictionary/knowledge>
- [2] http://www.oxforddictionaries.com/us/definition/american_english/knowledge
- [3] <http://en.wikipedia.org/wiki/Learning>, <http://www.merriam-webster.com/dictionary/learning>
- [4] <https://www.google.com/search?client=ubuntu&channel=fs&q=definition+of+education&ie=utf-8&oe=utf-8>
- [5] <http://www.merriam-webster.com/dictionary/education>
- [6] http://www.oxforddictionaries.com/us/definition/american_english/education
- [7] <http://www.learnersdictionary.com/definition/academic>
- [8] <http://dictionary.reference.com/browse/academic>
- [9] http://www.oxforddictionaries.com/us/definition/american_english/academic
- [10] <http://www.etymonline.com/index.php?term=educate>
- [11] http://www.etymonline.com/index.php?allowed_in_frame=0&search=academia&searchmode=none
- [12] <http://www.etymonline.com/index.php?term=train>
- [13] http://en.wikipedia.org/wiki/E._O._Wilson
- [14] <http://www.cell.com/neuron/abstract/S0896-6273%2814%2900688-6>
<http://www.columbia.edu/cu/psychology/courses/1010/mangels/neuro/neurocells/neurocells.html> http://www.human-memory.net/brain_neurons.html,
http://en.wikipedia.org/wiki/Body_memory
- [15] R. Descartes, **The Method, Meditations, and Philosophy**, "Discourse on Method," Part II, p. 122,
http://oll.libertyfund.org/?option=com_staticxt&staticfile=show.php%3Ftitle=1698&Itemid=27
- [16] <http://www.etymonline.com/index.php?term=sapient>
- [17] N. Callaos, <http://www.iis.org/ViewVideo2014.asp?id=4>
- [18] <http://www.etymonline.com/index.php?term=ethos>
- [19] <http://en.wikipedia.org/wiki/Ethos>
- [20] <http://en.wikipedia.org/wiki/Truth>
- [21] <http://en.wikipedia.org/wiki/Truth>
- [22] <http://www.etymonline.com/index.php?term=logos>
- [23] <http://en.wikipedia.org/wiki/Episteme>
- [24] <http://en.wikipedia.org/wiki/Techne>
- [25] <http://plato.stanford.edu/entries/episteme-techne/>
- [26] <http://www.nsf.gov/statistics/seind04/c7/c7s2.htm>
- [27] <http://literacyprojectfoundation.org/community/statistics/>
- [28] <http://www.pnas.org/content/109/42/17028.abstract>
- [29] <https://www.google.com/search?client=ubuntu&channel=fs&q=purchase+term+papers&ie=utf-8&oe=utf-8>
- [30] <http://calsuni.com/order.php>
- [31] <http://www.harrisinteractive.com/NewsRoom/HarrisPolls/tabid/447/ctl/ReadCustom%20Default/mid/1508/ArticleId/1353/Default.aspx>
- [32] <http://en.wikipedia.org/wiki/Religion#Etymology>
- [33] **Rig Veda**, Hymn CXXIX – Creation, Book the Tenth.
- [34] **Rig Veda** – Oxford Companion to Philosophy, http://www.answers.com/topic/ancient-philosophy#Indian_philosophy
- [35] M. Kafatos and R. Nadeau, **The Conscious Universe**, New York: Springer-Verlag, 1999.
- [36] Hesiod, **Theogony**, Line 116.
- [37] Simplicius, **Commentary on Aristotle's Physics** (24.13-21), Aristotle, Physics VI:9, 239b5.
- [38] Lucretius, **The Nature of Things**, "Formation Of The World and Astronomical Questions".