

## Theory of Knowledge Essay

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*TASK: "History is always on the move, slowly eroding today's orthodoxy and making space for yesterday's heresy." Discuss the extent to which this claim applies to history and at least one other area of knowledge.*

*"History is always on the move, slowly eroding today's orthodoxy and making space for yesterday's heresy."* This statement claims that History – the series of inter-connected events that have occurred in the past – in some ways always *move*. More specifically, it claims that some of its constituents are slowly taken away, and replaced with something else. The specific exchange of this content is going from orthodoxy to heresy. Orthodoxy is what is considered to be the *accepted theory or doctrine* that many individuals, or the mainstream, adhere to. Heresy is the opposite, a term that represents a view *contradictory* to that of the orthodoxy. Together, they constitute two extremes.

Furthermore, the statement points to "today" and "yesterday", respectively belonging to the orthodox and the heretic. The notion of "today" is pointing to the current or contemporary views at a specific point in History, while that of "yesterday" could be something older. In the exchange process, what was discarded before is – according to the quote – reconsidered and integrated into some domain as the new orthodoxy. The exchange can occur in many *domains*, such as History, Science, Ethics, Languages ad infinitum. What these domains have in common, is the fact that they have an independent history. There is the history of science, the history of Ethics, and even the history of your dog. I will elaborate and analyze to which extent the exchange process, which encompasses the introductory claim, applies to two Areas of Knowledge: History and the Natural Sciences. Both domains have a *history*, as they have undergone changes through time, as humans have evolved and the knowledge within both has changed with it.

Now, when the introductory claim is applied to History in its traditional sense, i.e. a study of human activity in the past, we will analyze how the views that reside in History as an Area of Knowledge

change in accordance with the exchange process. When applied to the Natural Sciences, we will analyze how what constitutes the Natural Sciences, namely scientific theories and hypotheses, change in accordance with the exchange process. When referring to the history of these two fields at once, we shall henceforth use the term **general history**.

Let us begin by exemplifying the exchange process in our two domains; In history, the belief that the cradle of civilization could be found in Ancient Greece prevailed for long. However, the oldest remains may actually be found in Mesopotamia. The reasons for why many clung to this belief, and still do, comes from ignorance, racism or prejudice; believing that civilization with all of its finesse emerged on the European continent is more acceptable than the idea that it actually occurred elsewhere. This initially outrageous, heretic, idea, gradually won acceptance and is now considered increasingly orthodox - an example of the exchange process in action. Likewise for the Natural Sciences, the transition from Aristotelian Physics to Newtonian Mechanics was tainted by Newton's heresy opposing old orthodoxy; he proved through experiment that falling objects accelerate regardless of their mass, rather than the opposite, held to be true by Aristotle.

The introductory claim suggests that general history always remains equivocal due to the occurring of upheavals. We have already partially seen examples of this.

Therefore the concept of *justified true belief* would be weak. A prerequisite for knowledge to have this status is that it must not only be believed, but also be justified. Both history and the natural sciences have self-scrutinizing mechanisms that seek out to approach this status

as much as possible, by justifying what knowledge they might obtain. These are entirely essential to their credibility and validity, as it is the basis for the work they carry out. In history, the historical method defines how sources – the very basis for writing history – should be treated. The Natural Sciences, which has at its core a constant struggle to find and create general *theories* through the study of natural phenomena, uses the scientific method, which outlines how theories should be generalized from empirical evidence obtained through rigorous experiment and observation. In terms of Ways of Knowing, both methods reflect using perception and reason, in a process of inductive reasoning; studying particularities (sources and experiments), creates historical interpretation and general theories.

If these principles were followed to the letter, the doctrines of our two domains would in effect slowly be changing themselves, in a gradualist manner, through the culture of self-imposed scrutiny. They would not be as dramatic as suggested by the introductory claim. But what if heretic theories (both historical or scientific) arise, contradicting the orthodoxy? Ideally, they should be scrutinized by looking at to which extent they are substantiated by the scientific or historical method, and how they compare to competing theories. If not, the *argumentum ad numerum* fallacy is in most cases committed. Literally, it means ‘appeal to the numerous’, signifying how something might be perceived as *correct* only due to many believing in it. In the logic of both domains, the committal of this fallacy is dangerous and misleading. It causes truth being justified upon belief, rather than justification through the scientific and historical method. Therefore, if performed, it leads to incorrect justified true belief. This is especially dangerous if committed against heretic theories, dismissing them erroneously. This kind of inertness by the *argumentum ad numerum* fallacy opposes the ideals

encompassed by the scientific and historical method. If it were existent, 'surges of heresy' would in effect be necessary in general history to penetrate the shield of inertia and cause positive progression, replacing the orthodoxy. In effect, an instance of the exchange process. The tendency of this fallacy resides in both domains of general history to a large extent;

The late philosopher of science Thomas Kuhn claimed that rather than progressing smoothly, science advanced through *paradigm shifts*. He explained how within certain periods of time, the fundamental framework in which the Natural Sciences operated, would alter and a new framework, a new paradigm, would emerge. This change would be dramatic, and much in accordance with the exchange process. Such a period in the History of the Natural Sciences is during the time of the Scientific Revolution during the 16<sup>th</sup> and 17<sup>th</sup> century that brought major and important changes in many respects, which opposed the conventional orthodox belief of the paradigm of that time.

One such important discovery was the true nature of the human blood circulatory system. From the 2<sup>nd</sup> century AD until 1628, the discoveries of a Greek named Galen remained canon. It postulated that human blood originated from two distinct organs, the heart and the liver, in their respective closed systems (venous and arterial). In 1615, a physician named William Harvey performed extensive experiments that led him to the conviction that the heart is responsible for circulating blood through the entire body, through both the arterial and venous system. Initially, his publications were met with fierce rejection and incredulousness. Nonetheless, after twenty years or so, his justified opinion that was considered heretic, was accepted and integrated as the new orthodoxy. The reigning orthodoxy of an almost 2000 year-old

theory had been abolished; only to be replaced by what today at most is considered trivial.

A more recent example is a new theory that seems to suitably explain how nerve signals are carried in the brain – through the generation of sound waves, rather than electrical impulses. This theory opposes a 50-year old theory, and is gaining momentum. It to, initially met rejection, but is increasingly being considered in the scientific community as plausible. The same applies for a recent ‘grand unification theory’ attempting to unite quantum mechanics and special relativity, a long-existing problem in the Natural Sciences. When such important theories arise, we may be talking about paradigm shifts and the exchange process in action.

In History, the view of what transpired in the past is known to vary. In a case of France and Algeria, the tendency of *argumentum ad numerum* has caused incorrect interpretations of the past, largely due to pressure from the society, undermining the actual truth. The fallacy in this case was deciding whether France used torture during the Algerian war of independence from 1954-1962. It was widely accepted that it never occurred, as claimed by several French historians and prominent characters. However, in the past ten years a process of reconciliation with the past has been occurring, through accepting the historical fact that torture was indeed used during the war. Again, this suits the exchange process.

When looking at both Areas of Knowledge simultaneously, we see that both have undergone to a various extent dramatic changes that have redefined the knowledge that they contain. This has been in spite of

presence of a culture of self-imposed scrutiny constituted by the scientific and historical method, that both outline how knowledge that respect the requirements of justified true belief should be gained. An irrational inertness where the communities affected by both domains choose doctrines based upon the belief of the many, rather than rational justification, has and is strongly prevalent. The fallacy for this tendency is named *argumentum ad numerum*, which in itself is destructive for the ideals of both domains. It is also the reason for the lack of *justified true belief* in both domains. Several examples in both the Natural Sciences and History have shown this to be true. In the big picture, to a large extent changes as described in the exchange process have occurred – and been vital to the progression of both History and the Natural Sciences.