

## The Importance of Disagreement

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### ABSTRACT

There is a profound wisdom in sustaining polemical disagreement.

**Aim:** This appraisal discusses advantages and disadvantages arising from disagreement to dogma.

**Notions, beliefs and validations:** Cultural heritage passes information from one generation to the next through schooling, education, learning and research. Questioning interpretations of authoritarian attitudes, knowledge and skills allows for revealing further insights, improvements and understanding of the universe.

**Conclusion:** Criticism and divergence of thought brings understanding closer to the truth, avoids speedy adoption of mistakes and moderates power. Assumption is the mother of all foul-ups and assumed veracity must be put to the test to ensure it is not mendacity.

**Keywords:** Anecdote, Argument, Authority, Disagreement, Insight, Interpretation, Opposition, Truth, Reason, Understanding

### PROVENANCE

Most knowledge about the universe and human behavior derives from observation and interpretation. The interpretation is strongly influenced by contemporary and predecessors concepts, passed down to offspring generations through teaching, education and learning. Many factors influence the collective memory of society, but certain attitudes, judgments and notions prevail, until challenged by alternate views, beliefs and understandings.

### AIM

This appraisal discusses advantages and disadvantages arising from disagreement with prevalent dogmas. Noting dissimilarities from, established dogmas ensures progress of knowledge.

Two classic examples illustrate this.

### First

The Aristotelian (384-322 BC) and Claudius Galenesque (~130-200 BC) interpretation of human physiology. For nearly two thousand years (from 500 BC to 1500 CE) four humors (namely choleric, melancholic, phlegmatic and sanguine)..., were believed by most intelligentsia and leaders in practicing medicine, to moderate human physiology. The spirit of life resided in all matter and could start spontaneously. This was sustained as the ultimate, even if abstruse, wisdom of medicine and accepted as the truths controlling bodily function. This hegemony of thought was taught and promoted to all students of Medicine. It was not

until William Harvey (15878-1657) re-interpreted the circulation of blood flow and heart function with a rational reconstruction of hemodynamics, did the pedantic forms of medical knowledge change. In 1628 he wrote his 'Exercitation de Molu Cordis et Sanguinis in Animabilus' (essay on the motion of the Heart and Blood in Animals). This arose from his disagreement with the then prevalent hypotheses and has been called the most important book in the history of medicine. He also wrote about spontaneous generation. Spontaneous generation of life was believed from ancient times and used to explain putrefaction and fermentation. The vital spirit embodied in the spontaneous-generation-hypothesis of life, was debunked later in the mid-nineteenth century by Louis Pasteur (1822-1895). Pasteur proved that microbes were necessary to infect, putrefy and modify substrates, and that yeasts ferment sugars anaerobically to produce alcohol. Pasteur's (with others like Koch, Chamberland, Roux and Parrot) interpretation and microbiology with bacterial metabolism changed all understanding of biological growth, and evolved new knowledge from those who disagreed with established

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dogma..

## Second

The universe revolves around the Earth, and the world is flat. This notion was accepted as the absolute truth for millennia until the mid-fifteenth century. Copernicus (1473-1543) thought this to be irrational and proposed the Solar-system, with the sun as the center of our universe, and that earth was but one among other circulating planets. Gallilei Galileo (1564-1642) confirmed Copernicus interpretation with Galileo's telescope, astrophysics calculations and stellar observations. The intransigent theological authorities of the time were outraged by his divergence, his novel interpretation and rational disagreement. Galileo was castigated and expelled from the Church. It took nearly 350 years for the Roman Catholic Church to agree with Galileo and reverse their excommunication of Galileo for heresy. It took courage to dissent with the learned authorities, to argue rationally and to oppose the assumed truth in the dogma of the day.

The universe after Galileo was regarded as a stationery construct without any modicum of change. Early in the twentieth century some astronomers disagreed and suggested the universe started roughly 15 billion years ago with a Big Bang and that the universe at its outer limits, was continuing to expand. The Big Bang Theory explains that the universe emerged from a firmament as a heated, dense sea of energy and matter. As the cosmos expanded and cooled it spawned galaxies, stars, planets and life. What preceded The Big Bang, and where and how the continued expansion and evolution of the universe will resolve, remains obscure. But the new understandings (like cosmological nucleosynthesis, the quark-hadron transition and the likes) and insights arising out of the disagreement with a static immutable concept of the universe are undeniable [1,2].

## DISCUSSION

Folk who observe differences are unique. Their perception of divergences allows them to express incongruities and spot discrepancies which they wish to re-interpret or correct. Noting dissimilarities which deviate or are at variance from, established dogmas brings about progress of knowledge. This may lead to disputes and perhaps agreement with differences of opinion, but at least misunderstandings can be clarified. Intellectual discord and conflicts of interests will materialize from dissent. Clarity of reasoning, with substantiating facts will facilitate agreement. Contradiction renders its own wisdom and accord by juxtaposing differences. Yet even if consensual validation may produce temporary harmony, disagreement should either strengthen and/or highlight false perceptions, bogus precepts and destructive behaviors. Belief in knowledge without evidence and observable substantiated proof is a formula for disaster, because assumption is the mother of all foul-ups. Assumptions must be challenged, questioned, deconstructed

and tested for veracity. Criticism moderates extremism and keeps promulgators of ideas focused.

## CONCLUSION

There is a profound wisdom to be found in opposites. Opposition to ideas cleanses thought, clarifies purpose and tests weaknesses in notions. Assumed veracity must be put to the test to ensure it is not mendacity. Opposition to ideas is the fundamental factor in the dynamics of democracy, scientific research and progress in general.

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