

Perspective

The Recent Editorial by Cardiothoracic Surgeons: A Multidimensional Perspective on Hegelian Thought, Reason and Progress from an Academic Plastic Surgeon

Michael F Angel*

Independent Contractor, USA

*Corresponding author: Michael F Angel, Independent Contractors, Johns Creek, GA, USA.

Received Date: 17 August, 2026 ; Published Date: 04 September, 2026

Keywords:

Surgery and Reason; Hegel's Philosophy; The End of History and the Last Surgeon; Quality Improvement; Plastic and Reconstructive Surgery; Cardiothoracic Surgery; Surgical Innovation

Citation:

Michael FA* (2026) The Recent Editorial by Cardiothoracic Surgeons: A Multidimensional Perspective on Hegelian Thought, Reason, and Progress from an Academic Plastic Surgeon. Digital J Sci 3(7): 177.

DOI: 10.63592/DJS/177

Abstract

Magouliotis et al. [1] discuss the historical development of cardiothoracic surgery across generations and consider this development in relation to Hegel's concept of history, reason, and progress. They further relate these ideas to Fukuyama's concept of the "end of history," raising the possibility that continued advances in quality improvement, efficiency, and technological development may increasingly influence the way surgical practice is organized and delivered. As an academic plastic and otolaryngology surgeon with an interest in psychology and philosophy, I consider several aspects of this perspective, while also identifying areas where the experience of other surgical specialties may provide a complementary view. A multidimensional approach is therefore presented through four perspectives: Hegel's philosophy of history, the influence of science and technology on culture, major factors influencing the contemporary era, and the differing characteristics of surgical specialties. The purpose of this discussion is not to question the value of quality improvement, technological advancement, or evidence-based practice. Rather, it is to consider whether continued surgical progress should necessarily be interpreted as movement toward a final endpoint, particularly when surgical specialties continue to encounter new clinical problems requiring judgment, creativity, adaptation, and innovation.

Introduction

Cardiothoracic Surgeons' Arguments

Magouliotis et al. [1] commence their article by describing G. W. F. Hegel as one of the most influential philosophers of the nineteenth century [2]. They discuss his concept of history as more than a random sequence of events and describe historical development in relation to reason and progress [3]. They then consider reason as an important driving force behind advances in medicine and surgery and refer to the well-known Hippocratic principle, "Primum non nocere," meaning "First, do no harm" [4]. They connect this longstanding principle with the modern concept of quality improvement, which has become increasingly important in medicine and surgery over the past several decades [5]. Quality improvement has been facilitated by advances in multiple fields, including information technology, basic science, clinical science, and other areas of medical knowledge [5]. Magouliotis et al. further note that cardiothoracic surgery has historically benefited from important pioneers who conceived, planned, and performed unique, technically challenging, and sometimes dangerous operations. They suggest that some procedures that were historically necessary may eventually become unnecessary or excessively risky as surgical knowledge, technology, and quality improvement continue to develop.

I now offer a multidimensional perspective in response to these considerations.

Plank 1: Hegel's View of History

G. W. F. Hegel lived from 1770 to 1831 and had interests that subsequently influenced numerous thinkers and fields of study [2,6]. Hegel presented different ways of understanding history. First, history may be considered in its original form, as in the historical writings of Herodotus and Thucydides, in which events were recorded during or relatively close to the period in which they occurred. Second, history may be analyzed retrospectively by someone from a later era who brings a particular viewpoint to the interpretation of an earlier event. Third, there is a philosophical approach to history in which reason and history are considered to have an intrinsic and reciprocal relationship. Within this framework, history is not simply a linear sequence of random events, but may be understood as a process in which reason develops through time and contributes to continuing human development [3]. There are, however, different perspectives on this interpretation of historical progress. Will and Ariel Durant, in *The Lessons of History*, document recurrent issues throughout human history, including war, morality, economics, biology, and the broader question of whether progress can be regarded as a consistent historical phenomenon [7]. Their analysis illustrates that historical development may be complex and does not necessarily follow a simple or predetermined direction. Jacques Maritain, who was strongly influenced by philosophical discussions of history, devoted considerable attention to the philosophy of history and examined historical development from several perspectives [8]. His work provides another example of the continuing philosophical discussion surrounding historical progress. Broader traditions of social and political thought have likewise examined the relationship between reason, society, political organization, and historical development [6]. These perspectives suggest that the interpretation of history is itself complex. Progress may occur, but historical development can also involve uncertainty, disruption, changing circumstances, and unintended consequences.

Plank 2: The Effect of Science and Technology on Culture

Neil Postman examined the relationship between technology and culture and described different stages in the development of technological societies [9].

Table 1: Postman's Stages

	State of Nature	Tools	Technocracy	Technopoly
Time	Approximately 750,000 years ago	Approximately 8,000 years ago	1561-1626	Contemporary era
Principal influences	Survival and adaptation	Inventors and practical knowledge	Scientists, philosophers, academics, and efficiency experts	Information technology and technological systems
Examples	Basic survival activities	Fire, writing, mathematics, and physical tools	Scientific and physical sciences, biological sciences, psychological sciences, social sciences, political and economic studies, educational and business studies	Widespread information technology
Social qualities	Small groups and families	Increasingly complex communities	Government, social classes, and multiple occupations	Highly interconnected technological society
Activities	Hunting and basic survival	Hunting, farming, fishing, trading, and personal care	Increasingly complex social and governmental structures	Technologically mediated daily life
Effects	Limited population and social organization	Population growth and development of communities	Major social and institutional changes	Extensive technological influence on society

The "state of nature" describes a hypothetical period in which humans lived before the development of organized social and political structures [10]. It is estimated to represent the overwhelming majority of human existence. The concept is useful here as a broad starting point for considering how dramatically human life has changed through the development of tools and social institutions. A tool may be understood as any device or method that allows humans to improve survival or accomplish a particular objective. Tools can be physical, such as fire, weapons, clothing, and instruments, or intellectual, such as rational thought, language, speech, and rhetoric. Discussions of human development and biological change have also emphasized adaptation and evolution over time [11]. Postman [9] begins his discussion of the interaction between humans and tools with an account involving ancient Egypt, in which King Thamus encounters Theuth, an inventor associated with mathematics, astronomy, writing, and other developments. The story illustrates an important principle: although a new technology may provide substantial benefits, its adoption may also change human behavior and the broader human condition. Two related principles can therefore be considered. First, tools can improve human capabilities while also producing unintended consequences. Second, each generation may need to consider how the benefits of new tools can be balanced against their consequences. Reason, rhetoric, and political and social discourse played important roles in the development of ancient Greek thought and society [12]. The introduction of written records further transformed human society by allowing information to be preserved and transmitted beyond the immediate circumstances in which it was produced.

Marshall McLuhan's work on communication and media provides another perspective on this transformation [13]. The development of communication technologies has not merely increased the quantity of information available to humans. It has also influenced the way information is transmitted and experienced. Table 1 summarizes several of the broad changes associated with the development of tools and technological systems. Technocracy, as described by Postman, developed through contributions from philosophers, scientists, inventors, academic institutions, business, and other groups [9]. It involves confidence that human life can be improved through systematic knowledge and the application of expertise.

The world has witnessed substantial improvements as a result of these developments. An average person today can access many things that were once available only to royalty or relatively privileged groups. At the same time, technological and institutional changes have been accompanied by wars, social disruption, and challenges to established institutions. The development of scientific management further emphasized efficiency, systematic organization, measurement, and optimization [14]. Similarly, the development of information societies transformed the way information could be collected, processed, stored, and distributed [16]. The social construction of technological systems demonstrates that technology also develops through interactions among social, economic, institutional, and technical factors [17]. Thus, technological progress may require continuing efforts to obtain its benefits while recognizing and managing its potential consequences. Postman describes technopoly as an environment in which culture increasingly surrenders authority to technology [9]. It has multiple dimensions and has contributed to the complex technological environment in which contemporary society now operates.

The following section considers several factors that may influence this environment.

Plank 3: Major Factors Influencing the Contemporary Era

Table 2 summarizes several factors that may influence contemporary culture.

Table 2: Major Factors in Our Era Changing CulturE

One tendency	Contrasting tendency
Entertainment	Education
Stimulation	Quiet time and boredom
Anxiety	Living in the moment
Solitary activities	Group activities
Planned activities	Spontaneity
Challenges avoided	Challenges sought and conquered
Narcissism	Healthy ego

These issues have been raised in various discussions concerning technology, psychology, culture, cognition, and human experience [15,18-25]. The purpose of presenting these contrasts is not to suggest that one side is always preferable, but rather to illustrate tensions that may arise within a highly technological environment. Contemporary society provides unprecedented access to entertainment and information. Postman has discussed the potential influence of entertainment-oriented communication on public discourse and attention [15]. Other contemporary discussions have considered how increasingly digital environments may influence direct human experience and interpersonal engagement [19, 21]. There are also broader discussions concerning the relationship between technology, cognition, and human behavior [18, 20, 22-25]. These perspectives should be approached thoughtfully and critically rather than being interpreted as evidence that technology is inherently harmful. The major pillars of contemporary society may, in many circumstances, encourage greater technological integration. At the same time, there may be opportunities to develop a more balanced approach. For example, educational systems are increasingly considering how conventional forms of teaching, including lectures and demonstrations, can coexist with digital learning and artificial intelligence. The objective should not necessarily be to choose one approach over another, but to determine how different approaches can be combined in ways that benefit learners. A balanced approach may similarly be appropriate in other areas of life. Stimulation can coexist with quiet time, individual activities with group activities, and technological assistance with independent reasoning. The broader question is how technological development can remain compatible with the human capacities that technology is intended to support.

Plank 4: Not All Surgical Specialties Are the Same

Plastic and reconstructive surgery has a long history and has contributed to the restoration of form and function throughout medical history [26]. Otolaryngology is a closely related discipline in many aspects of structural and functional surgery involving the head and neck. Both specialties have developed substantially during the past two centuries and have been influenced by advances in anatomy, physiology, anesthesia, trauma care, reconstructive surgery, and technology. Detailed anatomical research continues to contribute to surgical knowledge, including studies of the temporal bone and surrounding structures [18]. Some surgical specialties are primarily organized around particular organ systems, including cardiothoracic, gastrointestinal, and urological surgery. The anatomy and function of these systems have been extensively studied and documented. Consequently, many aspects of their management can appropriately be evaluated through quality improvement and standardized recommendations [5].

However, this does not mean that every surgical problem can be completely standardized. In my specialties, while quality improvement and standardized approaches have considerable value, there remains a continuing need to develop techniques for new and complex clinical problems in which surgery may be only one component of the overall solution. Plastic surgery and otolaryngology are, in many respects, creative disciplines. They frequently require adaptation to individual anatomy, tissue characteristics, functional requirements, previous treatment, and patient expectations. Continued opportunities for innovation are therefore important. Emerging technologies, including artificial intelligence, may contribute to medical and surgical education and practice [20]. These technologies may provide important advantages, but their use should remain accompanied by appropriate professional oversight and clinical judgment. Professional medical organizations also continue to contribute to education, collaboration, professional development, and the advancement of medical practice [21]. Such organizations may remain relevant even as technology changes the structure and delivery of healthcare. A multidimensional approach to complex questions involving human beings, technology, and society may also be useful beyond surgery [22]. For these reasons, I would respectfully suggest that plastic surgery and otolaryngology are unlikely to reach a definitive “end of history.” Rather, the continuing emergence of new clinical problems, new technologies, and new patient needs will create opportunities for further development.

The concept of Fukuyama’s “end of history” [27] may therefore be more appropriately understood in this context as a philosophical proposition rather than as a literal prediction that surgical innovation will cease.

Conclusion

I have considered the article by Magouliotis et al. and agree that cardiothoracic surgery, like other surgical specialties, has benefited greatly from important pioneers and from continuing advances in science, technology, and quality improvement. Through the four perspectives presented here, I offer a complementary interpretation. Hegel’s philosophy provides an important framework for considering the relationship between reason and historical development. However, the history of human societies is complex, and different philosophical and historical perspectives provide different interpretations of the meaning and direction of progress. Similarly, technological development has produced remarkable improvements in human life while also introducing new challenges. Postman’s analysis provides a useful framework for considering how technology can influence culture as well as capability. Developments in communication, scientific management, information systems, and technological networks further illustrate the complexity of this relationship. The contemporary technological environment also raises questions concerning education, entertainment, human interaction, cognition, and direct experience. These questions warrant continued discussion and a balanced approach rather than an assumption that technological progress is either entirely beneficial or inherently harmful.

Finally, surgical specialties are not identical. While quality improvement and standardization are essential components of modern surgery, different specialties and individual clinical problems may require different degrees of adaptation, creativity, and innovation. Plastic and reconstructive surgery and otolaryngology illustrate this point particularly well because their clinical practice frequently involves the interaction of anatomy, function, reconstruction, individual patient characteristics, and evolving surgical techniques. The central argument is therefore not that quality improvement or technological progress should be limited. Rather, continuing progress should remain accompanied by clinical judgment, professional responsibility, creativity, and attention to the individual patient. Surgery has progressed enormously, but progress does not necessarily imply a final destination. The future surgeon may be one who benefits from increasingly sophisticated technologies while continuing to exercise reason, judgment, creativity, and respect for

Digital Journal of Science (DJS)

the individual patient. In this sense, the “last surgeon” may remain more useful as a philosophical question than as a prediction of the future of surgery.

Financial Support and Sponsorship: None

Conflict of Interest: The author declares no conflict of interest.

References

1. Magoulitis D, Atanasiou TE, Zacharoulis D (2023) Surgery and Reason: The End of History and the Last Surgeon J Clin Med 12(17): 5708.
2. Knox TM (2026) Georg Wilhelm Friedrich Hegel. Encyclopedia Britannica. July 1, 2026.
3. Hegel GWF (1988) Introduction to the Philosophy of History. Rauch L, translator. Indianapolis, IN: Hackett Publishing Company.
4. Smith WD (2026) Hippocrates. Encyclopedia Britannica. July 24, 2026.
5. (2026) Royal College of Surgeons of England. Quality Improvement.
6. Bailey A, Brennan S, Kymlicka W, et al., In (eds) The Broadview Anthology of Social and Political Thought. From Plato to Nietzsche 1: 848-849.
7. Durant W, Durant A (1968) The Lessons of History. New York, NY: Simon and Schuster Paperbacks.
8. Maritain J (2019) On the Philosophy of History. Providence, RI: Cluny Media.
9. Postman N (1993) Technopoly: The Surrender of Culture to Technology. New York, NY: Vintage Books.
10. Munro A (2025) State of nature. Encyclopedia Britannica. August 19, 2025.
11. Ayala FJ (2026) Evolution. Encyclopedia Britannica. August 2, 2026.
12. von Fritz K. Greek Philosophy. Encyclopedia Britannica. August 1, 2026.
13. McLuhan M (1964) *The Medium is the Message*. Canada: McGraw Hill, USA.
14. Taylor F (1911) *The Principles of Scientific Management*. Nova Scotia, Canada: Oceans of Mind.
15. Postman N (1985) *Amusing Ourselves to Death: Public Discourse in the Age of Show Business*. New York, NY: Penguin Books.
16. Beniger JR (1986) *The Control Revolution: Technological and Economic Origins of the Information Society*. Cambridge, MA: Harvard University Press.
17. (2014) Bijker WE, Hughes TP, Pinch T. In (eds), *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*. Cambridge, MA: MIT Press.
18. Michael FA (2026) Temporal Bone and Surrounding Structures: Its Development, Anatomy, and Significance: A Mini-Review. Glob J Otolaryngol 29(2): 556256.
19. Michael FA, Evangelos S, Angelo S (2025) Potential Advantages and Risks of Artificial Intelligence in Medical/Surgical Education: Can the Genie be Controlled?. Glob J Otolaryngol 28(2): 556233.
20. Michael FA, Angelo S (2026) Southern Medical Association: A Unique Organization, Needed Now As Ever Before. Glob J Otolaryngol 28(5): 556248.
21. Michael FA (2026) Odysseus vs. the Spider: No Contest! A Short Multidimensional Analysis. Digit J Humanit Soc Sci 1(2): 106.
22. Bennenson JF, Markovitz H (2014) *Warriors and Worriers*. New York, NY: Oxford University Press.
23. Nehls M (2023) *The Indoctrinated Brain*. New York, NY: Skyhorse Publishing.
24. Rosen C (2024) *The Extinction of Experience: Being Human in a Disembodied World*. New York, NY: W. W. Norton and Company.
25. Clarke LK (2025) *Fixing the Broken Brain*. Tustin, CA: Trilogy Christian Publishers.
26. Kim J, Shenaq SM (2026) Plastic surgery. Encyclopedia Britannica.
27. Fukuyama F (1992) *The End of History and the Last Man*. New York, NY: Free Press, USA.