

Bridging the Epistemic Gap: C.P. Snow's "The Two Cultures" as a Compass for the Future of Humanities

Sajal Suneja & Gunja Patni

Abstract

In contemporary society, a substantial divide exists between the realms of "Science" and "Humanities." The growing divide has reached a level where reading Shakespearean literature and comprehending the Third law of Thermodynamics are viewed as functions isolated within different cognitive areas leading to an epistemic void, transforming the interaction between a 'Scientist' and a 'Philosopher' into a state of radio silence. This paper intends to study C.P Snow's (1905- 1980) - an English novelist and physical chemist - observations in the light of contemporary academic landscapes, as discussed in his essay "The Two Cultures" from the prominent work *The Two Cultures and the Scientific Revolution* (1959), contending that such a divide remains a critical impediment to the holistic understanding of the world. To get a nuanced understanding of the chosen text, a reading of a few influential works such as *The Third Culture* (1999) by Gerald Feinberg and *Enlightenment Now: The Case for Reason, Science and Humanism* (2018) by Steven Pinker is undertaken. A comprehensive and detailed examination of "The Two Cultures", is conducted to emphasize the barriers between disciplines, specialisation silos, complexities in technological integration, ethical considerations, and the cultural impact of science. The paper proposes a paradigm shift in the discipline of humanities, arguing the necessity for scientific literacy while positing a fundamental reimagining of it, so it stays relevant for the coming generations. Thus, by fostering scientific fluency within the humanities and nurturing mutual respect and engagement, we can forge a richer intellectual ecosystem capable of solving the complex challenges of the 21st century/ age of artificial intelligence.

Keywords: Artificial Intelligence; Culture; Humanities; Intellect; Science; Technology.

Introduction

The intersection of Science and Humanities has sparked a debate over centuries. The roots of this debate stretch back to the post-Newtonian era when natural philosophy started to become established as a distinct area of study. The early thinkers and scholars laid the foundation for what would later become modern science. However, as scientific knowledge progressed, a growing divide between the sciences and the humanities emerged, with each discipline developing its own language, methods, and priorities. This paper aims to study C.P. Snow's essay entitled "The Two Cultures", hereafter *TTC*, from his influential lecture *The Two Cultures and the Scientific Revolution* (1959) wherein Snow highlighted the disconnect between science and humanities as a potential blind spot that could impede societal progress.

From the early days of Natural Philosophy to the emergence of modern scientific disciplines and the flourishing of humanistic studies, the divergence in language, methods, and priorities has shaped the way we generate, interpret, and apply knowledge. This division between the sciences and the humanities is not merely an intellectual curiosity, but rather a fundamental barrier that has influenced the way we tackle societal issues and develop solutions.

The paper will thus delve into the historical foundation of such a divide and its impact on the integrity of epistemic progress. Furthermore, the paper will explore the potential positive outcomes that may result from promoting teamwork and cohesion between scientific and humanities-based perspectives. By doing so, a more inclusive and multifaceted understanding of the world can be achieved.

Epistemic Gap: The Divergence of Sciences and Humanities

The history of the rift between science and humanities traces its origin to the Age of Enlightenment. This era was fuelled by an increased quest for scientific knowledge and a distinct deviation toward empirical and rational thoughts. Figures like Immanuel Kant played a critical role in delineating these two separate realms, with science providing the methodology to generate irrefutable universal truths through objective investigation, and humanities investigating subjective human truths. Additionally, the rise of the Industrial Revolution, a symbol of the growing importance of scientific and technological development, further entrenched this dichotomy. C. P. Snow addresses this issue rather seriously:

I believe the intellectual life of the whole of Western society is increasingly being split into two polar groups. When I say the intellectual life, I mean to include also a large part of our practical life, because I should be the last person to suggest the two can at the deepest level be distinguished. I shall come back to the practical life a little later. Two polar groups: at one pole we have the literary intellectuals, who incidentally while no one was looking took to referring to themselves as 'intellectuals' as though there were no others. (4)

Science, at its core, is deeply committed to gathering empirical evidence and leveraging the scientific method. It aims to demystify the world around us through the lens of observable events, rigorous experiments, and data that can be quantified and measured. Its methodical approach often involves a reductionist strategy, simplifying complex entities into more manageable, simpler elements for more straightforward analysis. In its pursuit of knowledge, science consistently emphasizes the importance of objectivity and precision, relentlessly working towards uncovering universal truths and laws that govern our universe. In contrast to this, the humanities immerse us deeply into the human experience, exploring our culture, values, and subjective worldviews. This realm encompasses areas like literature, philosophy, history, and arts. Here, the focus shifts from empirical evidence to an emphasis on contextual critique, interpretive approaches, and a qualitative grasp of topics. The humanities cherish subjectivity, cultural nuances, and the rich tapestry of human experiences.

This split can be traced back to various elements. A key factor is the deepening intellectual specialization, leading to discourses brimming with jargon, as Snow himself noted. Educational institutions have also played their part, often segregating scientific and humanistic studies into different academic spheres, with minimal interaction between them – a point elaborated in *The Oxford Handbook of Interdisciplinarity* (2019) by Robert Frodeman. Furthermore, the foundational differences in philosophies and methodologies of these fields exacerbate this divide. Sciences typically lean towards empirical and quantitative methodologies, in contrast to the humanities, which are more qualitative and interpretive in nature, as Jerome Kagan discusses in *The Three Cultures: Natural Sciences, Social Sciences, and the Humanities in the 21st Century* (2009).

C.P. Snow's *TTC* sheds light on a significant divide in education systems, a divide deeply rooted in historical educational practices. Traditional curriculums have been structured to distinctly separate scientific and human-

istic studies, leading students down highly specialized paths. This segregation is mirrored in the very architecture of many universities, where science and humanities faculties often exist in silos, rarely interacting. Such a setup perpetuates a clear demarcation, entrenching the idea of two separate academic worlds within the realms of higher education.

Additionally, resource allocation and research funding within these institutions often favour one discipline over the other, leading to a competitive rather than collaborative environment. This institutional practice hinders the development of interdisciplinary approaches that could bridge the gap between these fields. The International Network for Government Science Advice (INGSA) emphasizes the importance of inclusive scientific advice in policymaking, advocating for a basis that extends beyond natural and life sciences to include social sciences and humanities. This approach acknowledges the crucial role of humanities in comprehending and addressing complex societal challenges, such as climate change, where factual evidence alone is insufficient for developing effective policies.

Moreover, Max Weber in his work *Science as a Vocation*. From *Max Weber: Essays in Sociology* (1946) says that the philosophical and methodological divide between sciences and humanities is deeply rooted in their differing approaches to knowledge. Sciences emphasize empirical, objective methodologies aimed at universal truths. In contrast, according to Clifford Geertz in *The Interpretation of Cultures* (1973), Humanities prioritize qualitative, interpretive methods that value subjectivity and the complexity of human experience. This divergence reflects deeper epistemological differences, influencing how each field perceives and engages with the world. Bridging this gap requires an appreciation of both approaches' strengths, fostering a more comprehensive understanding of the world.

In addition to that, the philosophical and methodological divide between sciences and humanities extends beyond their approaches to knowledge. To elaborate, Karl Popper believes that in the sciences, "The task of formulating an acceptable definition of the idea of an 'empirical science' is not without its difficulties. Some of these arise from the fact that there must be many theoretical systems with a logical structure very similar to the one which at any particular time is the accepted system of empirical science" (Popper 16). Whereas Wilhelm Dilthey's contentions regarding understanding human beings is that:

Regarding all other objects, there is an interest to explain; regarding human beings, an interest to understand. With other

objects, I seek explanations, which do not give me an inherent likeness of things. We do not understand the processes of nature. We are aware of the effects of a [physical] force, but the nature of its agency we do not know. It is different in the domain of the moral world. (229)

These contrasting approaches result in different conceptions of what constitutes 'knowledge' and 'truth' in each domain. The challenge in bridging this divide lies in reconciling the empirical rigor of the sciences with the nuanced interpretive frameworks of the humanities, a task that necessitates a deep understanding and respect for the methodologies and epistemologies of both fields.

"The Two Cultures"

Charles Percy Snow – an English novelist and physical chemist – born on the 15th of October 1905, set forth to embark upon a journey that is seamlessly woven in science and literature. His early life, with humble beginnings in Leicester, England, set the foundation for a varied and influential career. Snow had a passion for both Science and Humanities. Gaining a doctorate, Snow took several eminent positions throughout science, even taking a prestigious fellowship at Christ's College, Cambridge, to further his knowledge about physics. His work within science, and particularly within spectroscopy, was exemplary of a strong understanding and respect for the scientific method.

Snow, with his dual expertise as a physicist and a novelist, brought a rare insight into both realms, making his observations in "The Two Cultures" particularly resonant (Collini vii-xxxii). During this talk, Snow voiced his concern over the growing disconnect between scientists and literary intellectuals, identifying this separation as a major obstacle in addressing worldwide issues. He championed the idea of fostering better dialogue and cooperation between these sectors, believing that a shared understanding was key to societal advancement.

Set against the dynamic and transformative period following World War II, a time characterized by swift scientific progress and significant shifts in culture, Snow's lecture stands as a critical commentary on the need to bridge intellectual divides in an era of global tumult. The lecture ignited widespread discussions about educational roles, intellectual elitism, and the societal duties of both scientists and humanists. While Snow's ideas were applauded for their progressive nature, they also encountered scru-

tiny for what some, like literary critic F.R. Leavis, saw as oversimplifications.

Critical Contentions

C.P. Snow's *TTC* has been subject to extensive analysis and critique, revealing its multifaceted impact and enduring relevance in academic discourse. Stringer's 1983 analysis critically examines Snow's portrayal of the sciences-humanities divide through the lens of stereotypes, paralleling theories in social psychology. He observes that:

While the polarising exaggeration of differences between scientists and literary intellectuals is typical of stereotyping, in creating this particular homogeneity Snow goes counter to the usual tendency. Intragroup differences are as a rule minimised in the stigmatised group. Here and in the novel considered below, the procedures of stereotyping are used for positive, supportive ends. However, since categorisation is ultimately based on comparative judgments, and given Snow's polarising tendencies, this need not surprise. The ultimate significance of the use of these procedures in the present argument is not just that they support a prejudicial view, as in the conventional social psychological analysis, but that they also work to naturalise the case being presented. (173)

These observations are crucial for understanding the perpetuation of these stereotypes in both academic and public discourse. Nearly forty years after Snow's publication, R. Ruprecht's 1999 study underscores the enduring relevance of Snow's arguments, particularly in the context of modern technical education. He proposes that:

. . . what Snow criticizes, the inner withdrawal of some authors from political and/or social questions and the lapse of some of them into fascist attitudes in the 20th century, is symptomatic for the period from the tum of the century on and their lack of true orientation. If society falls apart, one must try to understand at least one's private position because there the starting point for a possible newly configured society may be found. From such a viewpoint the likes of a D. H. Lawrence, Joyce, Proust, Musil, Kafka, and Robert Walser can be understood. What Snow asks them to do cannot be their concern because they have more pressing problems to discuss. (235)

Bruce Jennings, in 2010, situated *TTC* within the framework of ethical governance in science, particularly in fields like bioethics and biotechnology. He opines:

In my view, one cannot make sense of this discourse or the debate and discussion that Snow provoked in either conventional ideological or disciplinary terms. Snow tried to do both, but did not clearly distinguish between the ideological and the disciplinary, and thus did not succeed. The bioethics response to biotechnology does not fit neatly on a left-to-right (i.e., liberal-to-conservative) spectrum. Nor do these discussions simply pit the sciences against the humanities in any straightforward way; for example, the disagreements between molecular biologists and conservation biologists are as sharp as those between philosophers who favor more biotechnological applications and choices and theologians who do not. So the conflicts are as much within the scientific disciplines and the humanities disciplines as between them. (26)

Walter E. Massey's 2018 reflections on the gradual bridging of the sciences-humanities divide highlight the role of interdisciplinary scholarship in fostering a more collaborative academic culture. In his opinion,

There are a number of reasons why the culture gap as described in Snow's paper has narrowed over these past 60 years. In particular, there has been a substantial increase in interdisciplinarity within science, which I think makes scientists more willing and capable of studying across other areas. One reflection of this growth in interdisciplinary research is the kinds of projects funded by the National Science Foundation (NSF). When I was director of the NSF in the early 1990s, the primary mode of funding was through grants to individual principal investigators or PIs. Now it is quite common to have grants go to teams of researchers or to centres and institutes that bring together researchers from multiple disciplines. (69)

Guy Ortolano, in 2008, offered a historiographical analysis, placing the 'two cultures' controversy in a broader historical context.

From the moment that C. P. Snow concluded his Rede Lecture in May 1959, discussions about the 'two cultures' have proliferated steadily. This essay began by observing that a consistent feature of these discussions has been the range of concerns to which the

'two cultures' have been yoked. This pattern is likely to be repeated in the coming few years, as we approach the fiftieth anniversary first of Snow's lecture and then of Leavis's response. Yet the ability of commentators to adapt the 'two cultures' to various ends has ensured that many of these discussions tend to recycle their claims. (149)

Melo-Martín, in 2010, critically evaluated the simplistic nature of Snow's portrayal of the sciences-humanities gap. Arguing that the issue is far more complex than Snow suggested.

Snow recognized that both scientists and non-scientists are the worse for their lack of knowledge of, and communication with, the other culture. For him, such lack of communication can have dire effects on prospects for solving some of the most urgent problems facing human beings. (8)

He further goes on to say that although Snow characterizes the problem as distortions and miscommunication between the two cultures, careful attention to his words reveals that he believes scientists and non-scientists are not equally to blame. Snow believes that scientists fail to know the culture of the humanities and that this problem results from educational specialization. "However, although lack of knowledge of the humanities impoverishes the imaginative life of scientists, the science culture is in no way the "poor sister" of the humanities culture." (Melo-Martín 8).

Jonathan Kahn, in 2011, focused on the structural barriers within academia that impede interdisciplinary collaboration, especially in the life sciences. Identifying specific institutional obstacles Kahn suggests that:

As diverse individuals and institutions across society continue to call for increased interdisciplinarity, it is imperative to consider more fully and systemically the multifarious types of structural barriers that may be impeding fruitful collaboration across disciplines. This necessitates of review of established cultures of work, recognition, and organization that have evolved independently over many years in most academic institutions. (408)

From Dichotomy to Dialogue: Bridging Epistemic Gaps

The discourse of C.P. Snow in *TTC* has significantly influenced the intellectual landscape. Snow's identification of the two distinct cultures – the

literary intellectuals, and the natural scientists – opened a debate on the perceived divide in understanding and communication between these two groups.” In the second edition of *Two Cultures*, in 1963, Snow added a new essay, “The Two Cultures: A Second Look” In that essay he suggested that a new “Third Culture” would emerge and close the gap between literary intellectuals and scientists.”(Vesna 21).

Snow’s original intention to focus on broader global and economic issues, as evidenced by his initial title “The Rich and the Poor,” suggests that his concern extended beyond the intellectual divide to encompass a more holistic view of societal challenges. This underscores his belief in the importance of interdisciplinary understanding and collaboration in addressing global issues like peace, food security, and sustainable population growth. The concept of a “Third Culture,” as proposed by Snow in “The Two Cultures” (1959) indicates a space where these two cultures can merge, creating a new paradigm that fosters dialogue and collaboration. This idea is especially relevant today, as the integration of art, science, and technology suggests a possible bridge-building avenue. Contemporary figures like John Brockman have furthered this conversation, suggesting that scientists themselves constitute this third culture, negating the need for intermediaries. “Snow believed that he has a foot in both worlds and is, therefore, qualified to conclude that the two cultures highly misunderstand each other. Snow believes that the fusing of art and science is not only possible but, in most cases, completely necessary in order to spread the intended information.” (Reed 8). Hughson and Tapsell’s discussion in “Physical Education and the ‘Two Cultures’ Debate: Lessons from Dr. Leavis” (2012) revisits the enduring debate, advocating a holistic approach in physical education that merges sciences and humanities. They posit that “Snow’s message was ostensibly non-antagonistic, lamenting the “gulf of mutual incomprehension’ that has widened between ‘literary intellectuals’ and scientists, ‘their attitudes...so different that, even on the level of emotion, they can’t find much common ground’”(Hughson and Tapsell 412).

The debate, initially stimulated by Snow’s lecture, underscores an ongoing academic and societal challenge: bridging the gap between varying knowledge forms. While Snow’s work was initially perceived as biased toward sciences, it ultimately emphasized the necessity of interdisciplinary dialogue and cooperation.

Conclusively, the discussions stemming from Snow’s work and the debate remain vital in contemporary academic discourse, particularly in foster-

ing cross-disciplinary collaboration in education. The ongoing challenge is to devise strategies that effectively connect diverse knowledge areas, thus enabling a comprehensive approach to societal issues.

Charting a New Course for Humanities with Interdisciplinary Approaches

In reevaluating the direction of humanities, it's pivotal to revisit C.P. Snow's influential lecture *TTC*, which highlighted the divide between sciences and humanities. Snow expressed concern about the profound disconnection and lack of interaction between these two academic spheres, a split that remains pertinent in current scholarly debates. The modern landscape of humanities education and research often confronts limitations, focusing predominantly on individual disciplines and sidelining broader societal and scientific contexts. This approach, while deepening domain-specific knowledge, sometimes risks distancing humanities from the dynamic web of modern challenges and advancements.

Interdisciplinary approaches in humanities promise a potential resolution to this issue. By weaving together methods, perspectives, and theories from various fields, these approaches cultivate a more comprehensive and contextual understanding of human culture and experience. These strategies not only echo Snow's vision for a unified academic environment but also revitalize humanities scholarship with new insights and methodologies. For instance, the merger of digital humanities and computer science has transformed the analysis and interpretation of historical and cultural data. Similarly, integrating environmental studies with literature has enriched the understanding of ecological themes in texts, reflecting a heightened awareness of environmental issues.

Advocating for an interdisciplinary approach in humanities, Van der Tuin, Iris, and Amy Pekal, in their article "On Generative and Generational Interlinkages and Intersections: Interdisciplinarity in Humanities Culture and Art" (2022) highlight the importance of integrating culture and art and introduce 'artistic research' as a method to enhance the study of humanities by combining various disciplinary perspectives. This method is valued for its ability to maintain complexity and generate a surplus in research contexts, leading to a dynamic and comprehensive exploration of humanities subjects. The authors stress the significance of being reflective about the influence of cultures on research, teaching, and learning, and call for a more inclusive and integrated understanding of humanities scholarship.

While Snow's concept of blending the sciences and humanities aligns with interdisciplinary ideals in humanities, its practical application is fraught with challenges. These include breaking down entrenched academic disciplines and ensuring fair representation of the humanities in cross-disciplinary studies. The path forward for humanities lies in adopting these interdisciplinary methods, enriching scholarly pursuits, and more effectively tackling the pressing issues of our time.

Conclusion

C.P. Snow's *TTC* serves not just as a cautionary tale but as a roadmap for a more integrated, holistic approach to knowledge. Bridging the gap between sciences and humanities opens uncharted realms of understanding, paving the way for a future where all aspects of human knowledge contribute to the common good. As we progress, embracing a spirit of collaboration and mutual respect among these diverse fields is crucial. This integration will enrich human experience, fostering a world where the richness of human experience is fully integrated with the precision and power of scientific inquiry.

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