

**Академичен диалог и кроскултурен ракурс**  
**Academic Dialogue and Cross-cultural Perspectives**

**Mending the Gap between the ‘Two Cultures’  
through Dynamic Intercultural Rhetoric**

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**Abstract:** The 19<sup>th</sup> century witnessed both the break up between the natural and human sciences and the birth of various disciplines, which led to historical debates among European scholars from both fields. During the 20<sup>th</sup> century, disciplines became highly specialized accentuating even more the humanities and the science gap and their implausible reconciliation. The privilege status conferred to sciences due to their close relation to industry has increased an asymmetrical relation against the humanities contributing to their existential crisis. In order to recover the humanities from its crisis and regain its position in society, some humanities scholars have started collaborations with researchers in the sciences, as currently seen in the case of neuroscience. Thus, this article revises the debates on the Two Cultures divide and the research methodologies carried out in the fields of the humanities and the neuroscience. It shows that recent attempts to promote consilience between literary studies and neuroscience have been articulated; however, it questions whether their methodological tools are sufficient to promote a unity of knowledge. Therefore, this study argues that a consilience between the Two Cultures should start from a dynamic intercultural rhetoric that enables a synergetic integration among scholars and their methodologies.

**Keywords:** Two Cultures; research methodology; dynamic intercultural rhetoric; humanities; neuroscience

**Introduction**

The popularization of the neuroscience has indirectly promoted a reencounter of humanities scholars with life sciences researchers to collaborate in interdisciplinary projects. This collaboration is still very insipient and isolated since it takes a toll on scholars and researchers to step outside their comfortable zone of expertise and academic niche. Yet, a liaison with life sciences departments can be seen as advantageous to humanities since the latter has been in ‘crisis’ due to lack

of funds and social prestige. There is, however, some reticence from some scholars such as Malabou, Rose and Rose, and Vidal who consider this liaison with a dose of skepticism as seen in their critique of brain research studies. They not only understand neuroscience as a product of neoliberal practices, but also as a new ‘philosophy’ that rejects the notion of ‘personhood’ in favour of “brainhood” (Vidal 2009) [1]. In other words, the ‘soul’, ‘mind’, and the ‘Self’ are reduced to a materialistic perspective, as seen in examples such as “my fMRI is me” (Rose and Rose 2016) [2] and ‘You are just a brain’ or ‘I am my brain’, in popular science magazines and blogs across the internet. Instead of following a critique that may fan the flames and widen the gap between the humanities and the sciences, this article aims to offer an alternate view that can foster dialogue between these two fields of knowledge.

Bearing this in mind, I revise historical debates on the Two Cultures divide and the research methodologies carried out in the fields of the humanities and the neurosciences, as explored in the author’s doctoral dissertation on the “Vernacularisation of Modern Neurosciences”. [3] Furthermore, I discuss the challenges of consilience by examining examples of research methods from the neuroscience (e.g. brain imaging techniques) applied to empirical studies in the humanities (e.g. literary studies). Hence, I show that recent attempts to promote consilience between the humanities and (neuro)science have been articulated; however, I question whether methodological tools and approaches are sufficient to promote a unity of knowledge. Therefore, I argue that a consilience between the Two Cultures should start from a dynamic intercultural rhetoric that can enable a synergetic integration between scholars and scientists.

### **The Debates**

The tension between the humanities and the natural sciences can be dated to the 19<sup>th</sup> century, when disciplines were formed, that is, when they became specialized and hierarchical, influencing the organization of education in major European universities. The tension was as a matter of fact a symptom of an underlying cause: the expansion of capitalism across the western societies which was motivated by a “reciprocal relationship between sciences and technology” (Rose and Rose 2016). [4] Eventually, the 19<sup>th</sup> century ‘man’ of the *belle lettres* would have to face the challenges to compete with specialized labour and skills (e.g. technology) which natural and engineering sciences could provide. Thus, a scientific vocational education was preferred to a holistic one, as it could serve the new demands of a market economy, a condition that still reverberates in our time.

At the end of the 19<sup>th</sup> century, prestigious British institutions hosted public talks with the deputies of the sciences and of the humanities who were influenced by an intellectual German movement – known as Neo-Kantianism that aspired to review Kant’s thoughts on the divisions of knowledge. One of the most famous British debates occurred between a natural scientist T.H. Huxley and a classicist Mathew Arnold (Cartwright and Baker 2005), [5] which propelled a polarization between the sciences and the humanities seen throughout the 20<sup>th</sup> century. The first round of lectures started in 1879 as a result of Arnold’s involvement with an education reform act being debated in the Parliament. Arnold’s speech was “to reemphasize the moral dimensions of education which he thought modern science ignored” (Roos 1977). [6] The following year, Huxley had a chance to publicly reply to Arnold’s liberal education by delivering a speech on “Science and Culture”, in which he stressed that only through a “scientific method” one can reach “truth” (Roos 1977). [7] Their talks were labeled “debates” and seen ‘controversial’ only after Arnold delivered his Rede Lecture at Cambridge in 1882 with his talk “Literature and Science”, in which he emphasized a “distinction that art and literature pursue some eternal thing which is not “positive”, that is, scientific” (Roos 1977). [8] The Arnold-Huxley controversy continued for another year, with Huxley responding to “Literature and Science” by suppressing “any direct reference to Arnold” (Roos 1977). [9] Roos points out that Huxley’s speeches were marked by tones of sarcasm and disdain for the arts and literature, being “veiled threat to anyone who might want to challenge the expansion of science in the modern world” (Roos 1977). [10] The Arnold-Huxley controversy left a legacy for the next generation to defend the irreconcilable differences between the liberal arts and the sciences.

In the mid of the 20<sup>th</sup> century, a British physicist and novelist named C.P. Snow delivered a famous REDE lecture, “The Two Cultures and the Scientific Revolution”, in Cambridge which revived the old contention between the sciences and the humanities. It became popularly known as ‘The Two Cultures’. In his lecture, Snow identified two opposite poles that he called “The Two Cultures”: on one end, the ‘literary intellectuals’ (i.e. humanities), and on the other one, the ‘natural scientists’ (i.e. physical scientists). Snow inherited a certain disdain against ‘literary intellectuals’ with whom he did not identify even though he was a literary writer himself. Yet, in a later revised article, Snow was more concerned about denouncing the social prestige British literary élite held than devaluing the humanities as a cluster of disciplines. Thus, Snow’s criticisms were against an elitist group of intellectuals that controlled the humanities from spreading beyond their own interests, while Snow overlooked the teaching and learning of the

humanities as a cluster of disciplines at the British universities. In other words, his critique did not consider aspects of curriculum organization set up in the humanities and the sciences departments, which might be a relevant observation that could have reinforced the ‘gap’. Instead, Snow focused on the humanities and the sciences as ‘culture’, which he defined as disciplines that share “common attitudes, common standards and patterns of behaviour, common approaches and assumptions” (Snow 2013). [11] Comparing the two clusters (e.g. humanities and sciences) as separate and distinct, Snow characterized each culture within a set of values that intellectuals and scientists live by. Over time, Snow’s term “Two Cultures” became consolidated into the everyday by synthesizing a lack or poor dialogue between the humanities and the sciences, and ultimately solidifying the divide.

In response to Snow’s famous lecture, a humanities scholar called Frank Raymond Leavis delivered a talk during the annual Richmond lecture in 1962. His talk, “Two Cultures? The Significance of C.P. Snow” (Collini in Leavis 2013) [12], attracted the local mainstream media such as the BBC. The Snow-Leavis disputes involving the Two Cultures referred to mostly literature (the canon and the classics/humanities) and sciences (natural). It is important to note that Leavis’ lecture has unleashed reactions among scientists and intellectuals from the English-speaking countries to the present day.

### **The Two Cultures**

In the long run, the Two Cultures have become an umbrella term encapsulating, problematically, opposing pairs such as subjectivity/objectivity, idealism/materialism, hermeneutics/experimental, qualitative/quantitative. Above all, the dichotomy has influenced mostly the methodologies used in the natural and human sciences, that is, quantitative and qualitative, respectively. More recently, a psychology scholar Jerome Kagan describes a personal account as a school kid in which he faced for the first time a tension between exact sciences (i.e. math and logics) and the humanities (i.e. arts) while learning physics, “But after I saw the picture of our planet taken from a spacecraft my commitment to its round shape became irreversible. Pictures are indeed worth a thousand words” (Kagan 2009). [13]

The debates between representatives of the humanities and the sciences reflected economic, political, and cultural changes that have marked the educational ground in the western societies. For example, the current ‘divide’ between the Two Cultures seen in our higher education system stems from internal and external agents such as academic centers, research institutes, faculty departments, and

government organizations that contribute to the compartmentalization of knowledge into specialized ‘disciplines’. Individuals (e.g. scholars, researchers, professors, instructors, and students among others) are driven by their knowledge, interests, and ‘aptitudes’ to join a certain discipline to study it in isolation or in their own niche. Therefore, it creates a scholarly system that emphasizes reduction, fixation, localization, and closeness.

Nevertheless, for the past few decades, some scholars, mostly from a natural sciences background, have attempted to establish a dialogue between the Two Cultures. Among those scholars, we can cite some feminist philosophers such as Sandra Harding, Donna Haraway, and Karen Barad who hold natural science degrees that work to their advantages in their attempts to develop a dialogue between science epistemology and feminist critiques. It seems that natural scientists seem to be in an advantageous position in terms of navigating through humanities disciplines, as the existence of pre-requisites are usually waived. For instance, a physicist may not face interdisciplinary obstacles to compose a poem about the cosmos; whereas a scholar in literature would face some constraints to write about the laws of thermodynamics, if they have not obtained previous knowledge of physics.

Thus, the efforts to bridge the gap from the humanities perspectives may require immense efforts and perseverance. Some scholars have already noticed such efforts, such as Siri Hustvedt, a novelist and English scholar. Currently, Siri Hustvedt is one of the very few in the field of the humanities who is willing to take the challenges of bridging the Two Cultures divide. In her recent book, *A Woman Looking at Men Looking at Women: Essays on Art, Sex, and the Mind* (2016) – a collection of essays drawing upon insights from both the humanities and the sciences – Hustvedt alludes to C.P. Snow’s *The Two Cultures* by stating that “In the last decade or so, I have repeatedly found myself standing at the bottom of Snow’s gulf, shouting up to the persons gathered on either side of it. [...] Time and again, I have witnessed scenes of mutual incomprehension or, worse, out-and-out hostility” (Hustvedt 2016). [14] Hustvedt’s tone sounds rather pessimistic as she predicts a weak compromise between the Two Cultures based on her experience of attending an ‘interdisciplinary’ conference at Columbia University, where neuroscientists and artists were invited:

The scientists (all stars in the field) gave their presentations, after which a group of artists (all art-world stars) were asked to respond to them. It did not go well. The artists bristled with indignation at the condescension implicit in the very structure of the conference. Each bearer of scientific truth gave

his or her lecture, and then the creative type, lumped together on a single panel, were asked to comment on science they knew little about. During the question-and-answer period, I made a bid for unification, noting that despite different vocabularies and methods, there really were avenues open for dialogue between scientists and artists. The scientists were puzzled. The artists were angry. Their responses were commensurate with the position they had been assigned on the hierarchy of knowledge: science on top, art on the bottom. (Hustvedt 2016) [15]

Hustvedt's perception of the conference reinforces an argument in which translation and research methods do not seem to be effective tools to bridge the Two Cultures gap, as they get 'stuck' in their own specificities. Hence, Hustvedt believes that there are other "avenues" open for dialogue. This article defends Hustvedt's view of opening other avenues to create a dialogue between both cultures so that humankind can benefit from an integral, holistic development. This position should be neither seen as naïve nor as optimistic per se, since disciplines such as biology, chemistry, and physics used to be considered 'natural philosophy' until the development of the modern sciences initiated in the 18<sup>th</sup> century. Since then, an ongoing segmentation into disciplines for the sake of specialization can lead to tribalism inside academia, as Hustvedt remarks: "The fragmentation of knowledge is nothing new, but it is safe to say that in the twenty-first century the chances of a genuine conversation among people in different disciplines has diminished rather than increased" (Hustvedt 2016). [16] Furthermore, some scholars blame postmodern theories for demeaning research methodology and methods in the humanities, which is likely to be one of the reasons for its low credibility in society (Kagan 2009). [17] For this reason, we may not find many scholars from the humanities attempting to bridge the gap, and the very few that attempt to do it have been misinterpreted by their cohorts due to an anti-science movement that has started since the 1960s.

Nevertheless, this article tends to side with the very few current humanities scholars who attempt to establish an authentic dialogue between the Two Cultures through value, appreciation, and respect, rather than through skepticism and hostility that may hinder the relationship, or through a dose of naivety that may misguide a dialogue.

### **Can We Bridge the Gap?**

Prigogine, a Nobel Laureate in Chemistry, was a strong advocate for con-

silience between the Two Cultures. In one of his public talks, “Only an Illusion” (1982) – available on the website “The Tanner Lectures in Human Values” – Prigogine claims that reconciliation should be based on a dialogue between natural sciences and the humanities, from which a fruitful outcome may emerge. Moreover, Prigogine believes that a “new dialogue of man with nature” is possible because it is not limited to “reversibility and deterministic” views (Prigogine, 1984) [18] that would impair such interaction.

Likewise, a philosopher, David R. Griffin, endorses Prigogine’s reconciliation by stating that Prigogine’s understanding of the two cultures gap has nothing do with the fact that “scientists have not read enough humanities and humanists enough science, but that there has been nothing in common between the two worlds” (Griffin 1986). [19] Griffin reinforces Prigogine’s position by emphasizing that “what lies at the root of the cleavage is the fact that humanities and social sciences are timely oriented, whereas “classical science has been non-temporal” (Griffin 1986). [20] Thus, for Griffin and Prigogine, it is the presence and absence of time that would separate the two cultures; that is, while the humanities are time oriented (e.g. narratives, history, and anthropology), natural sciences are atemporal, that is, usually immersed in lab experiments that are detached from socio-historical contexts.

Moreover, Griffin justifies Prigogine’s arguments by remarking that “...this non-temporal view has been part and parcel of an alienating science that has portrayed a dead, debased nature, creating an inevitable opposition between humanity and nature” (Griffin 1986). [21] In this view, time becomes a fundamental marker in establishing dualism, and to overcome it (e.g. matter/non-temporal and life/temporal) Griffin argues for an “enlarged science with a new idea of time” so that a new concept of matter can be established, “capable of ‘perception’ and ‘communication’” (Griffin 1986). [22] Thus, this new emergent science searches for a new ‘alliance’ between the humanities and the sciences, which stresses a “nondeterministic process, in which there is intrinsic randomness” (Griffin 1986). [23] In the hope of replacing the debates with a mutual dialogue between the humanities and the sciences, and along with Prigogine’s vision, this article attempts to mend the gap between the Two Cultures by proposing a dynamic intercultural rhetoric that is contextualized.

A few scholars in the humanities and social sciences have already attempted to bridge the gap by adopting ‘scientific methods’ from the natural sciences into their research design. For example, psychology has adopted a rigid research methodology solidly based on statistical methods (e.g. SPSS software and R), experimental methods (i.e. controlled group, placebo effect, etc.), and more cur-

rently, brain imaging techniques used in neurosciences, such as fMRI. Sociology also applies similar research methods that can combine quantitative and qualitative tools such as statistical software, focus group, surveys, and ethnography. Moreover, to narrow the gap between the Two Cultures, scholars in the humanities and social sciences have started collaborative work outside their departments so that they can equip the humanities (e.g. literature) with some ‘robust’ scientific research methods (e.g. statistical programs and experimental models). To illustrate this trend, I cite some academic associations such as the *International Society for the Empirical Studies of Literature and Media* (IGEL) and the *International Association of Empirical Aesthetics* (IAEA) with members mostly from literature, arts, and psychology, carrying out quantitative experiments to analyse reader’s/audience’s responses to literature, arts, and media, instead of taking the traditional interpretative approach (e.g. hermeneutics) used in the humanities.

Currently, the expansion of cognitive studies towards literature and art has pushed psychology and literature scholars towards neuroscience through research methods such as brain scanner in order to ‘visualize’ and ‘map’ an individual’s brain while interacting with a literary text or a piece of arts. Brain scanners such as fMRI have attracted collaborative projects with multidisciplinary researchers (e.g. neuroscientists, psychologists, music, literary and media scholars) to investigate human brain activities (e.g. emotions) in response to literary work, film, TV commercials, arts, and others.

Considering the growing interest in using brain scanners in reader response research, I raise the following questions: Is it possible that brain imaging techniques become a research method capable of narrowing the gap between the humanities and the natural sciences to eventually foster an ‘authentic’ dialogue? If this is the ‘technological’ direction humanities should take in terms of research methods, what will be the implications for future scholars in the humanities? For example, should we start taking a brain imaging crash-course such as “Principles of fMRI course” to be neuroscience literate? The probability of a positive answer may score high since free introductory courses are already available online for a lay audience. However, as discussed previously, many humanities scholars are likely to be averse to incorporate scientific methods such as brain-imaging into their research practices. Moreover, a research design should not be driven by its tools but by its inquiry.

### **The Humanities and Neuroscience Affair**

Despite being vulnerable to criticisms from their cohorts, very few humanities scholars such as Polvinen, Philips and Rachman, have attempted to mend

the gap by adopting a ‘language’ of the privilege, that is, the neuro/sciences. The evidence is the quantitative research methods those scholars have chosen (e.g. experimental design, brain imaging techniques, and statistical analysis) over qualitative approaches in the humanities (e.g. ethnography, focus group, and textual analysis). There is no doubt, however, that a collaboration with the neurosciences can benefit the humanities to regain their social value by means of re-contextualization. In other words, a ‘robust’ research methodology can confer to the humanities some degree of ‘validity’ and ‘credibility’ when facing hardcore scientific communities and funding agencies. Nevertheless, a robust and reliable research methodology such as lab experiment is likely to be frowned upon by most humanities scholars who side with interpretive research approaches (e.g. hermeneutics) to distance themselves from positivist traditions.

Despite this, some recent attempts towards a ‘re-contextualization’ of the humanities through a ‘robust research’ have been observed. For example, two humanities scholars, Philips and Rachman, have conducted an experiment with fMRI to examine student-volunteers’ brains while reading Jane Austen as seen in their article “Literature, Neuroscience, and Digital Humanities” published in 2015. Their research illustrates that Snow’s ‘unbridgeable gap’ between the humanities and sciences has become outmoded. The two researchers have relied on a multidisciplinary team to conduct the investigation, although they have emphasized that the orientation should come from the humanities to neurosciences. They remark that humanities researchers should look “precisely for a mode of analysis that is also a mode of critique that seeks to clarify the manifold ways that experimental practices, techniques for visualizing neuroscientific results, and the popular tendency to read brain images as facts require careful framing and interpretation” (Philips and Rachman 2015). [24]

By including fMRI as a methodological tool in empirical studies of literature and media, the scholars recast themselves as “literary neuroscientists”, making it appear to be ‘the next big thing’. Despite the novelty in terms of methods and tools, their research question which is based on reading for pleasure and for education does not sound original; this type of question has been already under investigation among reader response researchers through more ‘conventional’ methodological tools such as questionnaires and interviews. However, what seems original is the visualization and mapping of the sections in the brain where certain neurons fire when participants engage in reading classical novels. The authors argue that “rather than using literary neuroscience to critique traditional humanistic practices, such as close reading, our experiment explores its complexity, finding new ways to demonstrate the cognitive intricacy and value

of teaching literary analysis” (Philips and Rachman 2015). [25] In other words, they used neuroscientific innovations to prove that ‘traditional’ reading practices such as close-reading still have their place in the teaching and learning of the humanities since those reading skills require from readers a certain level of focus and concentration which are important cognitive functions necessary to perform various activities in the everyday.

Despite their enthusiasm towards experiments that can lead to a dialogue between the humanities and the neurosciences, the two researchers emphasize the use of technology (e.g. brain scanner) over participants’ behaviour; their literary reading practice and experience does not seem to have received equal attention. Although brain scanners in a neuro-humanities experiment can give an academic community a sense of ‘rigorousness’, they can be easily misevaluated by the technological supremacy that overpasses participants and researchers. In this regard, neuro-humanities researchers should be aware of the neuro-lab context with its ‘robust procedures’ that are set up in artificial environments where participants are requested to perform certain tasks under certain rules so that data can be collected, organized, and manipulated by sophisticated computational programs. For the sake of scientific rigor, participants’ agency is likely to be ignored.

Moreover, by electing brain imagining as a methodological tool in the neuro-humanities or ‘literary neuroscience’ – due to its capacity to replicate findings – researchers might fall into the trap of being guided by tools rather than by research questions that are based on human beings’ needs and problems. Following this train of thought, Hogan notes that brain imaging methods can have a significant role in the intersection of the humanities and the sciences, but he carefully advises that such methodological tools can favour neuroscientists mostly. In his article “Literary Brains: Neuroscience, Criticism and Theory”, Hogan states that “the brain imaging of literary response is a neuroscientific pursuit, even if it is one that takes literature as its object. Put simply, it is and will be done in neuroscience departments, not in literature departments” (Hogan 2014). [26]

Thus, as shown here, the attempts to bridge the gap between the Two Cultures lead to asymmetrical relations and uneven power dynamics. Although there is a tendency to privilege the neuro/scientific methods (e.g. brain imaging techniques) over the ones used in the humanities due to its novelty and methodological preciseness, they may seem impractical to expand across the humanities departments since brain scanning methods are expensive, require specialized technicians and lab resources, and provide limited scope to research questions beyond brain functions.

The success of brain imaging techniques in the scientific and vernacular

contexts is justified by the authoritative status that visuals have acquired in our culture. According to Ortega and Vidal, privileging brain images in clinical diagnosis “as tools for compiling and communicating information” to a lay audience creates a necessary belief that “scientific images represent reality in the mode of mechanical objectivity [to be trusted]” (Ortega and Vidal 2011). [27] Moreover, the authors observe that recent representations of the brain as the most important human organ as seen in popular culture have fostered an emergent neuro-culture movement with proponents not only from neuroscientific circles but also from lay groups such as artists, novelists, and filmmakers. Since visual representations of the brain have become dominant in our society, we cannot ignore the fact that the neuro-culture movement has contributed to the vernacularisation (i.e. communication and popularization) of the neurosciences to a certain extent.

Whether the use of a brain scanner as a popular research tool in the humanities may seem too futuristic or inconceivable for many scholars, the dialogue between the Two Cultures should not be postponed. For this reason, I argue that a consilience between the Two Cultures should start from a dynamic intercultural rhetoric that enables a synergetic integration among scholars and their methods.

### **Dynamic Intercultural Rhetoric**

Snow’s Two Cultures used as a metonymy for the humanities and the sciences has been widespread, but not with much depth on the concept of ‘culture’. Here, I understand Snow’s use of culture in reference to the two fields as distinctive group of disciplines that have their own peculiarities, values, procedures, methods, tools, and language that are used among members belonging to a certain niche or community (e.g. scholars and scientists). Following this train of thought, I defend that an intercultural rhetoric should be a viable approach to deal with the interactions and communications between the humanities and the sciences.

As known, culture has been widely studied in anthropology and related disciplines in which scholars have worked on its various definitions. For example, one definition of culture is based on its communicative orientation that is empathetic, dialogic, and intentional, which I argue that it aligns with a classical rhetorical approach (i.e. pathos, ethics, logos). To clarify this definition, I cite Duranti’s statement of culture, “Culture means the ability to step out of our own, limited ways of seeing things and take someone else’s perspective. This process makes it possible to have knowledge of oneself (Selbstbewusstsein) as well as knowledge of the Other. Such knowledge is always a theoretical way of thinking.” (Boas in Duranti 1997). [28] Duranti mentions that his definition of culture is grounded in philosophy and anthropology such as Hegel’s and Boas’ concepts

respectively, so that he can develop his own definition within his work on linguist anthropology that centers on language use and context, providing it with a temporal perspective. Furthermore, he mentions that language becomes part of a culture with distinctive structures, and “classes of ideas or thoughts” (Boas in Duranti 1997). [29]

Thus, the Two Cultures are seen as distinctive groups with their own language and communicative styles. To be part of either culture, one needs to go through a process of learning and training. The process of learning, which is individually and collectively, involves acquiring specific knowledge, linguistic competence and performance, and communicative strategies. Hence, considering Duranti’s idea of stepping outside one’s culture to learn about the other, humanities scholars and scientists should make such move in order to start a reconciliation. In this respect, an intercultural communication awareness becomes essential in this initial process of consilience.

Thus, to communicate interculturally involves a genuine exchange of one’s thoughts (e.g. theories, methodologies), behaviour (e.g. procedures, methods, tools), and discursive strategies (e.g. narratives, reports, conference presentations) in order to negotiate a common goal. In other words, a shared objective – such as the one centered on the personhood – can work towards a unification of these Two Cultures. The example aforementioned that discusses neuroscience methods and tools to investigate individuals’ reading practices when reading a literary text seems to miss the common goal which is centred on the personhood rather than on the brainhood. To meet a common ground, those researchers from both cultures should follow an intercultural approach so that strategies of convergence and accommodation could lead to a dynamic communicative and rhetorical style.

Therefore, a dialogic and dynamic interaction between the humanities and the sciences can foster an intercultural encounter based on equity, empowerment, and empathy. By equity, I mean that both cultures hold similar values and can relate symmetrically to one another as both are relevant to society. By empowerment, I mean that both cultures have an impact on the progress and enlightenment of society. Last, by empathy, I mean that both cultures understand the challenges they undergo in order to advance and adapt to new bio-socio-cultural demands and realities. Setting up a common goal involves a synergetic movement in which both cultures can focus on interrelations, networks, and convergent communication.

Furthermore, my understanding of intercultural rhetoric departs from Ulla Connor’s work on writing across cultures (Connor 1996). [30] Yet, her work has

been revised by scholars that take a critical instance to intercultural studies for they understand that culture works within power forces, ideologies in order to comply with hegemonic discourses (Kubota and Lehner 2004). [31] If we followed their arguments, we would consider the humanities an oppressed field, marginalized from lack of sufficient grants and funds when compared to sciences, since the former has never been in good ‘fit’ for the industry. This argument is likely to be fallible if we consider that the humanities were once a prestigious field for the elite, pursued by men of *belles lettres*, whereas science and technology used to hold a lower position due to its applicability to industry. To avoid following a binary discourse such as oppressor and oppressed, privileged and marginalized that delays to foment a constructive dialogue, I claim, instead, that a dynamic intercultural rhetoric view becomes a suitable approach to understand the power forces that are complex, oscillatory, and changeable in order to adapt to historic contexts and environment. Thus, a dynamic intercultural rhetoric and communication approach can offer the tools for putting out the flames of hostility that have endured between the two cultures and destroyed the bridge that once united them.

Nevertheless, we cannot deny asymmetrical relations that have been recently reinforced by the implementation of transhuman ideologies throughout the neuroscience research (e.g. artificial intelligence) marked by financial support from public and private institutions which contributes to widen the gap and fan the flames of hostile tensions between the Two Cultures. The funding granted to neuroscience can be considered an “instrument of power” (Schmidt in Thielman 2008). [32] Moreover, Thielman states that “Power and dominance within intercultural communication are due to asymmetrical constellations” (Thielmann 2008) [33], but we cannot resolve it by simply removing those asymmetries; for example, we cannot simply remove the ongoing capital been invested in the neuroscientific research projects. As an alternative to deal with power structures, Thielman suggests an intercultural training to reconcile contradictions. Based on this, I defend an intercultural training grounded in a dynamic intercultural rhetoric approach that can work from within a common language that is free of jargon, non-linear, and flows in both directions between the Two Cultures. Furthermore, I suggest a rhetoric based on analogies, metaphors, and everyday experiences in order to deal with specific scientific concepts which can enable a creation of a mutual space where knowledge and collaborative research can be circulated. In other words, a combination of mixed methods and tools so that the Two Cultures can interact creatively. This can lead to mutual engagements between the Two Cultures with accommodations and adaptations so that they can interact sym-

metrically, through convergence, knowledge sharing, and interpretability (i.e. clarifying language) in order to promote equity.

### **Conclusion**

A dynamic intercultural rhetoric can enable members of the Two Cultures to directly interact with each other through non-linear collaborations while keeping their own knowledge identity. As seen in Allport's well known ideas of "contact hypothesis" (1954), [34] prejudices, biases, and power asymmetries can be better resolved when different cultures are in direct contact, that is, living next to each other. I would complement his hypothesis by stating that an intercultural training should be added to it in order to facilitate dialogue; for example, enabling artists to represent and engage with the human brain through their arts such as installations, paintings, and sculptures in a dialogic framework within current neuroscientific knowledge, and or allowing individuals living with neurological conditions to tell their own stories (e.g. neuro-autobiographies). These two examples can work towards consilience. Moreover, such interactions between the Two Cultures can promote a dynamic communication, in which participants from each group can reposition themselves in relation to their research, methodologies, and tools; as a result, it can create a space for moving in and out of contexts. Yet, it can be counterargued that a dynamic flow across disciplinary borders can make them porous or vulnerable; however, I refute such possible argument by defending that a reposition of the humanities and the sciences can promote self-growth and inclusive dialogues which encourage disciplinary borders to synergistically redefine themselves.

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