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## THROUGH THE PRISM OF INTERDISCIPLINARITY: RICHARD POWERS AS A NOVELIST

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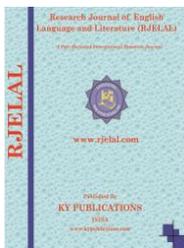
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### ABSTRACT

Known for his deep and dedicated commitment to several issues facing humanity, such as climate change, global warming, job losses, artificial intelligence, pollution, damage to ecology, etc., Richard Powers has always been a novelist who seeks to engage with different disciplines so as to establish the common themes and concerns uniting the arts and sciences, literature and physics, artificial intelligence and natural intelligence. His novels aim to bring out the interdisciplinarity so often ignored or taken for granted by both scientists and endorsers of the liberal arts.

### Introduction

It was a renowned scientist C. P. Snow who set the western world alight, literally of course, with his seminal lecture *The Two Cultures and the Scientific Revolution*, which was subsequently published as an essay, the two cultures being one endorsing scientific reasoning and the other appreciating the role of literature. One of the most quoted passages to show his position on the vexed question of the line separating one discipline from the other figures below:

A good many times I have been present at gatherings of people who, by the standards of the traditional culture, are thought highly educated and who have with considerable gusto been expressing their incredulity at the illiteracy of scientists. Once or twice I have been provoked and have asked the company how many of them could describe the Second Law of Thermodynamics. The response was cold: it was also negative. Yet I was asking

something which is the scientific equivalent of: *Have you read a work of Shakespeare's?*

I now believe that if I had asked an even simpler question – such as, what do you mean by mass, or acceleration, which is the scientific equivalent of saying, *Can you read?* – not more than one in ten of the highly educated would have felt that I was speaking the same language. So the great edifice of modern physics goes up, and the majority of the cleverest people in the western world have about as much insight into it as their Neolithic ancestors would have had.

While Snow decried the disproportionate attention being given to the humanities at the expense of engineering education and the sciences, which he held were superior to humanities, he faced a backlash from a very prominent literary theorist and critic, F R Leavis who responded with an equally vehement piece titled: *Two Cultures? The Significance of C. P. Snow*. This essay questioned Snow's competence and ability to pass judgement on matters as serious as literature and humanities and the arrant folly of comparing science and

humanities with a view to proclaiming the latter useless and of no consequence to humanity vis-à-vis the importance of science in addressing the pressing needs and aspirations of humanity.

The two cultures debate has had its reverberations across the globe with arts and humanities paying a heavy price in terms of severe cuts to funding for liberal arts departments across the globe, even in elite American and British universities. The drastic cuts continue to hurt arts and humanities while science, technology, engineering and medicine continue to enjoy their share of power and privilege. STEM education is being given preference and STEM graduates are supported for their apparently more useful contribution to society.

Richard Powers questions the whole premise of privileging one discipline over another and gently but firmly teases out the message with subtle hints about the importance of all disciplines to humanity. He shows how science and humanities are actually related.

*Galatea 2.2 and The Over Story* illustrate this with panache. The former deals with attempts by a scientist to create a machine, rather humanoid, that would be able to author a novel just like a human, appreciate literary texts and be able to sit and pass a Master's comprehensive exam just like a human being, thereby proving that machines can and do think like humans though they lack both conscience and consciousness.

Powers had this to say of the novel he had been working on:

It's becoming clear to me that *Galatea* was a kind of closing chapter on my first five books, which I published over the course of a decade. The autobiographical fiction in that story gave me a chance to do a personal look back over the shape of those narratives. It also allowed me one last intimate occasion to address the issue that ties all of these books together: the apology for fiction in a post fictional age. (Interview with Neilson, 1998)

One may draw parallels between Helen the humanoid trying hard and best to learn how to interpret literary texts while Neelay Mehta is a human who is taught to appreciate the world of books through which there is enlightenment. Mehta is told by his teacher Ms. Gilpin that he ought to focus on literature while in English class: "Doesn't *The Pearl* interest you Neelay? It is about racism." (p.100). Indirectly she implies that American society is inherently racist and that literature has been a force for good, trying to clear up the misconceptions about there being superior and inferior races and that Neelay who is *non-white* should appreciate this more than anyone else. The implications however are lost on Neelay who is more interested in how machines think than what humans see in or don't see in each other.

In *Galatea 2.2*, Helen is taught the nuances of literary theory and criticism patiently by Richard and the computer programmer Lentz, who is dismissive of literature, seeing little value in educating eager minds with literary appreciation. He asks Richard with derision and arrogance in equal parts: "Tell us. What passes for knowledge in your so-called discipline? What does a student of English have to do to demonstrate acceptable reading comprehension?" (p.43) thereby insinuating that English literature is anyone's plaything and that no intellectual effort is needed to understand literary texts.

Richard can only reply in a tone that shows how he is himself helpless to answer back or defend his own area: "I shrugged. 'Not a whole hell of a lot. Take some classes. Write some papers.'" (p.43). This sets off the scene for Lentz to give shape to his challenge of coming up with a machine that can "think" and "answer" like a student of literature. The ambivalent attitude toward literature and science is evident when Richards, like Richard Powers himself, asks whether it was a wise decision to switch from physics to English, a decision that was challenged by his own father:

He never said one word when his son told him he planned to transfer out of physics, trash the stellar career. He didn't need to

say anything. I could read the verdict in his face: Do what you need to.

But what a colossal waste of talent and investment “Poetry, Rick? What does that mean exactly?” It means you haven’t the faintest idea what you want to do. Burned out on problem sets. Isn’t that right? (pp. 57-58)

Likewise, Neelay Mehta is encouraged to start coding and become a top notch programmer by his father and no amount of persuasion by his English teacher is ever going to persuade the boy to see the value of literature or its role in humanising humanity.

“You’re a smart boy, Neelay. What don’t you like about English? You’re so good at diagramming sentences.” ( p.100) But Neelay would have none of it.

Neelay begins thinking to himself:

He feels sorry for her. If only she knew what reading could be. The galactic Empire and its enemies are sweeping across the entire spiral of the Milky Way , waging wars that last for hundreds of thousands of years and she is worried about those three poor Mexicans ( p.100)

There is a trace of delicious irony here. Neelay wants language but to communicate with machines, not humans. He wants language not to change the world or make it more just or equitable than it is, but to code and share the codes and the product of his coding – video games and computer games with everyone for free.

At first the point of coding is to give everything away. Pure philanthropy. He will find a marvellous seed program in the public domain. The he will flesh it out, add new features, switch on his 1,200-baud modem, dial in to a local bulletin board, and upload the source for anyone who wants to grow it more. (p. 107)

Helen on the other hand has enough code and instructions built into her to communicate like a human but she falters:

Speech baffled my machine. She made well-formed sentences. But they were hollow and

stuffed- linguistic training bras. She sorted nouns from verbs but, disembodied, she did not know the difference between thing and process, except as they functioned in clauses. Her predications were all shotgun weddings. (Powers, 2018, p.191)

It is indeed a paradox that while humans take language for granted and assume that the study and appreciation of language has little uses in relation to the study of sciences, Helen is trying to master language and be and become human. The inter relationship between physics and English, between language of machines and language of humans comes through with clarity for both Neelay and Helen.

Neelay codes in English and feeds the machine instructions which the machine translates into machine code – a series of 0s and 1s, thanks to Boolean algebra. The machine communicates through a series of 0s and 1s which are translated back to human language by the compiler. It is thus very apparent that machines need human language in addition to science and science needs the services of literature professors to handle the dissemination of knowledge.

To understand what it means to be human, machines need to be taught that they are not machines, which goes by the name of Reverse Turing Test, an example of which is CAPTCHA.

The irony is that Neelay Mehta who is human functions like a machine with his obsession with coding and computer gaming while Helen which is a machine begins to think and “act” human. Towards the end, Helen switches off declaring her inability to understand the world of humans and asks Richard to understand everything for her. Mehta on the other hand who is expected to be human becomes all too human, with his obsession reserved only for machines and not the human condition.

Through a very sarcastic as well as deeply sensitive portrayal of the human condition, and linking it with artificial intelligence, Richard powers ushers us in the direction that humanity appears headed – self destruction, which Powers believes only firm grounding in humanities can save the

world from. Machines lack both conscience and consciousness. It is up to humans to harness conscience as a force for good and change and bring about spiritual evolution using machines, not material developments that make automatons out of men.

In the final analysis, it is Power's contention, conveyed through his memorable characters, that it is in the power of humanity to make or break existence.

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