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**Abstract:** Science and Humanities, Two Cultures debate has long existed in English academia. As early as in 1880s, there was debate between Huxley and Arnold about the priority of science or literature in higher education. In America there was similar argument between Herbert Spencer and Irving Babbitt. Then there was the most famous Two Cultures dispute between C. P. Snow and F. R. Leavis in 1959. Since then the relationship between literature and science has been a military history of conflict, and education has been the most important territory where the war has been, and continues to be, fought. David Lodge is a distinguished post-war English novelist, critic and a veteran university professor. One after another, Lodge's academic satires record the relatively rapid arrival and departure of the heyday of university education in Britain. His concerns over the interaction between economy and education and the rival between literature and science -- Two Cultures debate, are best fictionalized in his two novels *Nice Work* and *Thinks...* and expounded in his criticism *Consciousness and the Novel*, which sheds new light on this still popular issue.

**Key Words:** Two Cultures debate, Lodge, *Nice Work*, *Thinks...*, *Consciousness and the Novel*,

## I. History of Two Cultures Debate

An important issue related to higher education is the function or the purpose of university: "a demand for knowledge" or "for training"? Education is invariably supposed to maintain, transmit and promote culture. Then the debate occurs: what culture to pass on? Is it to defend the liberal arts tradition or to adapt to the needs of increasingly industrial and commercial society? Human civilization has long been divided into two branches: science, knowledge of thing and humanities/arts, knowledge of man, as Ralph Emerson put it in *Lore of the Unicorn*:

There are two laws discrete  
Not reconciled, –

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Law for man, and law for thing;  
The last builds town and fleet,  
But it runs wild,  
And doth the man unking.

Since education offers a route to the cultured personality, the “two laws” have struggled against each other for the dominance in the higher education. The role of higher education used to be based on the cultivation of spirit and intellect, promoting the general powers of mind, advancing learning, transmitting a common culture and common standards of citizenship, according to Matthew Arnold and Cardinal Newman. Literature used to be predominant in education, because education was, before the advent of the systematic study of nature called for by science, essentially text-based. Therefore, study of literature (in wide sense) used to lie at the heart of education. Nevertheless, with the dawn of the modern scientific age, the situation has changed and education has become the sensitive territory for the conflict between science and literature for the primacy in education.

Science and Humanities, Two Cultures debate has long existed in English academia. As early as in 1880s, there was debate between Huxley and Arnold about the priority of science or literature in higher education. In his 1880 lecture “Science and Culture” at the opening of Sir Josiah Mason’s Science College in Birmingham, using the image of warfare to explain the relationship between scientific and literary education, Huxley presented himself as a “full private” in this new guerrilla force, and proposed that as far as the acquisition of culture was concerned, education of science was valid as that of literature, while in his 1882 speech “Literature and Science” made in Cambridge Arnold refuted this notion by arguing that only literature had the strength of “relating our knowledge to our sense for conduct and to our sense for beauty” and the majority of men will always require humane letters, “as they have the more and the greater results of science to relate to the need in man for conduct, and to the need in him for beauty” (qtd. in Cordle, 11).

In America there was similar argument between Herbert Spencer who held that scientific analysis was a prime necessity of life, whereas art and literature were only forms of “play,” which should “occupy the leisure part of education” (qtd. in Babitt, 77), and Irving Babbitt who responded by writing *Literature and the American College* to voice his neo-humanist view of education with stress on the role of humanities in higher education.

Then there was the aggressive duel between C. P. Snow and F. R. Leavis, the most famous Two Cultures dispute. Snow coined the phrase “two cultures” in his 1959 Rede Lecture in which he claimed that the intellectual life of the whole Western society was increasingly being split into two groups: literary intellectuals at one pole – at the other scientists; between the two there was a gulf of mutual incomprehension – sometimes, hostility and dislike, and most of all lack of understanding, but the future would belong to the advanced science. He established his authority to speak for both camps by referring to his scientific training and his vocation as a novelist. Leavis met his challenge by undermining Snow’s identity as a serious novelist and insisting on “one culture,” the cultural tradition and argued that English studies as a serious discipline was the more important means to preserve and promote the cultural tradition. Since then the relationship between literature and science has been a military history of conflict, and education has been the most important territory where the war has been, and continues to be, fought.

## II. Two Cultures Debate in David Lodge's Works

David Lodge (1935-) is a distinguished post-war English novelist and critic. He was also an experienced literature professor in University of Birmingham until 1987 when he took retirement. Being a university teacher for twenty-seven years, David Lodge gets privately involved in the vicissitude of British higher education. One after another, Lodge's academic satires record the relatively rapid arrival and departure of the heyday of university education in Britain. His concerns over the interaction between economy and education and the rival between literature and science -- Two Cultures debate are best dramatized in his two novels *Nice Work* and *Thinks...* and clearly expounded in his criticism *Consciousness and the Novel*, which sheds new light on this still popular issue.

In *Nice Work*, conflict between Penrose, a young female college teacher, and Wilcox, a middle aged businessman, concerning university education continues Two Cultures debate. In one of the first exchanges between Penrose and Wilcox, Wilcox argues for the "useful" in education, like mechanical engineering, whereas Robyn asserts the value of an education centered on "ideas, feelings." Vic ultimately claims that the "only criterion" to use in evaluating education is the money to be earned as a result of time and energy being expended (NW 76); in contrast, Robyn argues for "nice work," work that is "meaningful" and "rewarding," but not necessarily in monetary terms (NW 86). Vic argues, "Men like to work. It's a funny thing, but they do. [...] they need to work for their self-respect" (NW 85); Robyn argues that Britain "should be [...] spending more money preparing people for creative leisure" (NW 85) and the work that "would be worth doing even if one wasn't paid anything at all" (NW 86). But when the market is more involved in education, with the economic ideas of Thatcherism reinforced, it is clear that the science has gradually taken the upper hand and the position of humanities in universities has declined accordingly. There is modern consensus of universities as instruments of social and economic policy, the introduction and development of training and research in the natural sciences and engineering in the universities as an indispensable effort to adapt the universities to the needs of industrial society, and by contrast, the fate of art and literature is gloomy as Irving Babbitt predicted in 1908:

Human tradition is weakening, threatened at present in manifold ways, – by the upward push of utilitarianism and kindergarten methods, by the downward push of professionalism and specialization, by the almost irresistible pressure of commercial and industrial influences. ... we should not be betrayed through carelessness into some educational scheme that does not distinguish sufficiently between man and an electric dynamo. (Babbitt 78)

Instead of the cultivation of spirit and intellect, the development and diffusion of skills becomes a primary objective in higher education. In the Vice Chancellor's memorandum sent to Philip Swallow concerning Industry Year and Shadow Scheme in *Nice Work*, it is revealed that "Universities throughout the UK make a special effort to show themselves responsive to the needs of industry, both in terms of collaboration in research and development, and the provision of well-trained and well-motivated graduates for recruitment to industry" (NW 53). Sutcliffe's question is poignant to expose the absurdity of the whole idea: "What has the Faculty of Arts to do with Industry Year, or Industry Year to do with the Faculty of Arts?" (NW 55). The similar problem arises for Philip Swallow to handle as the dean of Arts Faculty as well as the head of English Department, concerning Department Enterprise Ventures; he can't help asking: "what do we have as a Department that's marketable in the outside world?" (NW 254).

Consequently, humanities become marginalized in universities. Charles is lucky enough to obtain a lectureship in the Comparative Literature Department at the University of Suffolk after finishing his PhD; although it is a little exaggerating for him to describe the post as “the last new job in Romanticism this century” (NW 26), his joke is a “justifiable hyperbole” that tells some truth. Wilcox’s attitude towards the role of arts is highly representative in modern utilitarian society. He regards arts degrees as a waste of money and suggests building more polytechnics since polytechnics are much cheaper. He cannot understand how Robyn can call reading “work,” when it’s “what’s you do when you come home from work, to relax.” Robyn tries to make Vic see that, in her University, “Reading is production. And what we produce is meaning.” But all Robyn’s defense for liberal education is retorted by Vic’s sharp question: Who pays? Even Basil, Robyn’s well-educated brother, doubts the value of academic work when he learns that Robyn is busy with her book on the image of women in nineteenth-century fiction, and raises a harsh question: “Does the world really need another book on nineteenth-century fiction?” (NW 222). As to this awkward question, Robyn can only admit that she doesn’t know, but it is her chief hope of getting a permanent job somewhere. Even ambitious and arrogant Morris Zapp, the highest paid scholar in humanities of Euphoric State University, acknowledges the importance of science above that of humanities: “Guys that can cure cancer, or blow up the world, deserve a little more than us literary critics” (SW 237). As a result, “there are scarcely any new candidates for the PhD in arts subjects anyway these days,” Philip Swallow gloomily complains (NW 52).

It bothers Robyn a lot to find that “ninety-nine point nine percent of population” couldn’t give a damn about the things that she and Charles “care so passionately about” (NW 152). Increasingly realizing the marginal position of literature, her confidence in the value of academic life is somewhat diminished. Charles’s letter explaining his switching to commercial work somewhat proves her own uncertainty though she is reluctant to acknowledge that. Without Zapp’s recommendation of migrating to America or the mysterious legacy from her uncle, it is very likely for her to transfer the profession since teaching of literature is in such a shabby condition.

The decline of humanities in higher education not only refers to the marginalization of literary discipline in university curriculum, but also concerns the replacement of humanist management by scientific management, the quality assessment by the quantity assessment. Gombrich has criticized the operation of the contemporary British university:

The model for the university is now the factory. The factory massproduces qualified students, thus adding value to the raw material. The academics, the workers on the shop floor, are there merely to operate the mechanical procedures which have been approved by the management and checked by the inspectorate. Since they are mere operatives, they can of course be paid accordingly. ( Gombrich 28)

Although by the end of *Nice Work* both Wilcox and Penrose considerably soften their positions on the value of education and manufacturing, they initially are adamant in their prejudices. At their first meeting, Wilcox is an aggressive spokesman for Mrs. Thatcher’s capitalist vision. Even as he describes to Robyn Penrose the inevitable displacement of the operatives still working in manufacturing plants like Pringle’s, he articulates an ironic vision of a utopian “dark country,” “lightless factories full of machines” controlled by computers; here the world is dark because “Machines don’t need light. Machines are blind. Once you’ve built a fully computerised factory, you can take out the lights, shut the door and leave it to make engines or vacuum cleaners or whatever,

all on its own in the dark. Twenty-four hours a day” (NW 85). For Robyn Penrose, of course, late capitalism, like its machines, is indeed blind: blind to the needs of its workers, blind to all that is not measured directly by profit. When the cultivation of “ideas, feelings” is taken out of education, and universities are supposed to mass-produce qualified students for job market, what is the difference between university and factory?

In a lecture in Oxford on education in 2000, the present British Prime Minister, Tony Blair, stated that of higher education he had only two things to say: it should take more young people from the working class and it should keep Britain internationally competitive (in economic terms) (Gombrich 34). The promotion of social equality and economic growth are indeed the major topics nowadays as far as universities are concerned, and it is clear that the decline of humanist orientation of traditional education is indeed inevitable.

Concerning the Two Cultures debate, the production of the novel *Thinks . . .* in 2001 has demonstrated Lodge’s attitude. In this novel, the two cultures conflict and the declining status of arts in higher education is symbolized by the opposition of two school buildings at the fictional University of Gloucester, “a greenfield university”: “Arts at one end and Sciences at the other” and the open spaces between the two will probably never be filled in, forming “an architectural allegory of the Two Cultures.” (*Thinks* 11) And the interaction between the two protagonists -- Messenger, a linguist, and Helen, a novelist, also represents the conflict and contact of science and literature. The story alternates between their points of view and also has chapters told by a narrator in the third person. The two main characters are set up by Lodge as typifying Two Cultures debate and two opposing approaches to the nature of human consciousness, “the biggest white space on the map of human knowledge” nowadays. (*Thinks* 35)

Ralph Messenger is a professor of cognitive science at Gloucester University. Helen Reed is an established novelist who, in order to escape from the shadow of her husband’s death, is taking on a temporary assignment as a creative writing instructor at the university. They meet at a dinner party, and Helen is rather fascinated by his movie star presence. When they meet again by chance and have lunch together, it becomes apparent that their attitudes and worldviews are decidedly different.

Messenger’s intellectual interests lie in the field of consciousness, the systematic study of the human mind, which, he says, was once the domain of just a few philosophers but is now “the biggest game in town,” attracting the interest of physicists, biologists, zoologists, mathematicians, and neurologists. Messenger heads the prestigious Holt Belling Center for Cognitive Science and spends a lot of time thinking about topics such as artificial intelligence, or AI, as it is known in the profession. He and his graduate students are all involved in projects that attempt to duplicate in robots or computers the workings of human consciousness. This includes something called “affective modeling,” which is computer simulation of the way emotions affect human behavior.

Messenger is an argumentative fellow, not given to self-doubt. He is confident that his way of seeing the world is the correct one, and he has little patience with views that run counter to his own. He recognizes the validity only of things that can be objectively measured, declaring “the future’s going to be dominated by computer science and genetic engineering.” (*Thinks* 48) He does not believe in such abstractions as the soul or spirit, which for him are simply ways of speaking of certain kinds of brain activity. In his view, when the brain ceases to function, consciousness ceases also. He has no time for what cognitive scientists call “pan psychism,” the idea that consciousness is the

fundamental component of the universe, which he associates with a vague transcendentalism or oriental religion. He insists that everything that processes information (including a human being), is a machine, and can be explained in purely physical terms.

By contrast, Helen was brought up as a Catholic, and she cannot entirely relinquish the remnants of her faith, especially as she is still recovering from the recent death of her husband. She does not believe that the universe is entirely random or without purpose, and clings to the belief that there must be some kind of afterlife, an idea that to Messenger seems pointless.

However, Helen is sufficiently interested in Messenger's theories to encourage him to tell her more about his pet subject. He tells her that the human brain functions like a computer, "running lots of programs simultaneously. What we call attention is a particular interaction between various parts of the total system. The subsystems and possible connections and combinations between them are so multitudinous and complex that it's very difficult to simulate the whole process." (*Thinks* 37) The ultimate goal, as Helen deduces, is to design a computer that thinks like a human being. Helen has her doubts. "A computer that has hangovers and falls in love and suffers bereavement?" (*Thinks* 38) she pointedly inquires. Or a robot that laughs at another robot's jokes? Helen regards that idea as "absurd" and remarks Messenger's "Mind/Body Shop sounds like a modern version of Frankenstein's laboratory." (*Thinks* 38)

Helen is extremely skeptical that any computer program could even come close to replicating the mechanics of human consciousness. For Helen, "that consciousness was the province of the arts, especially literature, and most specially the novel. Consciousness is what most novels are about." (*Thinks* 61). She resents the idea of science poking its nose into her business. She asks in her journal: "Hasn't science already appropriated enough of reality? Must it lay claim to the intangible invisible essential self as well?" (*Thinks* 62) She is always mistyping "science" as "scince" (pronounced *skince*) because she thinks the mistyped word expresses "the cold, pitiless, reductive character of scientific explanations of the world." (*Thinks* 62)

Therefore, in her opinion, the experts in the study of consciousness are not Messenger and his friends in cognitive science but the great novelists, especially Henry James. It is they who are able to penetrate what goes on in someone's head—their emotions, feelings, and memories. In the jargon of cognitive science, these elements of consciousness are known as *qualia*. But Messenger claims that all a reader can discover from a novel is what the writer thought, which in his opinion is not real knowledge and only scientific knowledge is real knowledge. Messenger is only prepared to accept scientific knowledge, so his quest is to find a way, so far impossible, to give an objective, verifiable account of the subjective phenomenon of consciousness.

Messenger even proposes to exchange their journals for each to "have a unique insight into another person's mind" (*Thinks* 187) but the proposal is rejected by Helen because she feels that "the privacy of our thoughts is essential to human selfhood.... the fact that we can suppress them, conceal them and keep them to ourselves, is essential to maintain our self-respect. It's essential to civilization" and it should be "inviolable." (*Thinks* 189)

The conflict and contact between the male scientist and the female novelist symbolizes the dialogue between two cultures. With their discussion, debate and e-mail correspondence, each of them achieves some new understanding of the human consciousness. Helen has learned various well-

known theories and thought experiments in cognitive science, evolutionary psychology and the philosophy of mind in the past twenty years, some are absurd but some are indeed enlightening and give her some inspiration for her creative writing course; while Messenger admits the limitation of the thought experiment even with his own trial of dictating his thoughts into a tape recorder, because "if you restrict the study of consciousness to what can be empirically observed and measured, you leave out what's most distinctive about it," (*Thinks* 42) the *qualia*, the specific quality of one's subjective experiences of the world. He realizes the problem of consciousness is "how to give an objective, third-person account of a subjective, first-person phenomenon." (*Thinks* 42) He concedes that novelists devote more energy to representing conscious experiences than writers of scientific discourse do.

Later, Messenger invites Helen to participate in his hosting Interdisciplinary International Conference on Consciousness Studies to tell those scientists "how it looks from a literary perspective," (*Thinks* 313) letting her say the Last Word for the conference in which she takes the opportunity to assert that "literature is a written record of human consciousness, arguably the richest we have" and "fiction is an irreplaceable tool of human self-knowledge." (*Thinks* 316) Although he doesn't agree with a word of that, Messenger admits it's really "interesting and thought-provoking." (*Thinks* 320)

Helen's assertion, actually, stands for Lodge's argument in science and literature controversy. Following up *Thinks...*, Lodge conveys his concern over Two Cultures debate in his criticism *Consciousness and the Novel*, a volume of essays published in 2002. The title essay, "Consciousness and the Novel," is a revised version of the Richard Ellman Lectures in Modern Literature on the literary implications of "consciousness studies" that Lodge gave at Emory University the year before. Lodge's thesis in this essay is that novels play an essential role in our exploration of the nature of human consciousness. He argues that because of the unique representative possibilities of the novel, conscious experiences can be represented more effectively in novels than they can be in scientific writing because "science ... is a third-person discourse. The first-person pronoun is not used in scientific papers. If there were any hint of *qualia* in a scientific paper ... it would be edited out" (CN 11).

At several points in the essay, Lodge suggests that we can make progress with the problem of other minds by reading novels because, he contends, novels can "give us a convincing sense of what the consciousness of people other than ourselves is like" (CN 30). Novelists, he says, along with lyric poets, provide a bridge between first-person (subjective) and third-person (scientific) views or narrations of the world. In conveying individual, open-ended experience in all its inconclusiveness, creative writers model the world more fully and helpfully for the consciousness that apprehends it. Drawing on the achievements of Marvell, Henry James, Virginia Woolf, Evelyn Waugh and various others, he edges the hard materialist fringe out of the picture. "If the self is a fiction," he writes, "it may perhaps be the supreme fiction, the greatest achievement of human consciousness, the one that makes us human." (CN 16)

### III. Conclusion

From 16 July to 18 July 2009, *Changing the Humanities/The Humanities Changing*, a major international conference designed to inquire into the current standing and disciplinary formation of the Humanities today was held at Gillespie Conference Centre, Clare College, Cambridge along

celebrating the 800th anniversary of the University of Cambridge. Some leading critical thinkers from Cambridge and elsewhere took stock of the changing role and significance of the Humanities, inside and outside the university. The event aimed to look both comparatively and historically at the Arts, Humanities, and interpretative Social Sciences, including the ways in which they relate to Science and Technology. Offering a wide range of thematic panels and public discussions, the conference also asked how the Humanities contribute to understanding society. There was a public session devoted to revisiting the 'Two Cultures' controversy about the relationship between sciences and humanities, sparked by Snow and Leavis at Cambridge in 1959. The last day's panel is *The Two Cultures Revisited* in which Guy Ortolano, a history professor from New York University presents his paper titled *From "The Two Cultures to Breaking Ranks": C. P. Snow, Liberalism, and 'The Sixties'"* and David Edgerton from Imperial College, London reflects on *Snow, Leavis and the History of British Science: from policy to history, and history to policy*. The conference was ended by a Public Round Table in which the President of the British Academy, Onora O'Neill, Sir Martin Rees, President of the Royal Society, as well as Richard Sennett, sociologist at the London School of Economics, picked up the gauntlet of the Two Cultures '50 years on,' proposing *Two (or Three) Cultures ?* This event illustrates the update going on of the debate.

While through his writing, David Lodge has shown that there is no absolute conflict between humanities and society, science and literature; in promoting human life and in exploring the human consciousness, the Two Cultures should go ahead hand in hand although the task is far from being easy.

Daniel Dennett is an American philosopher whose research centers on philosophy of mind, philosophy of science and philosophy of biology, particularly as those fields relate to evolutionary biology and cognitive science. "I enjoyed it a lot," he remarks on *Thinks...* frankly, "I had expected to find it horrible. What's fascinating is that [Mr. Lodge] articulates the discomfort, the anxiety, that I have been feeling for years. There's a queasiness that people feel as they see the march of science into the brain and the mind, a fear that we'll be swallowed up and turned into robots." (Scott 16)

This remark is a scientist's great appreciation of a novelist for his exploration of the human consciousness. The fact that this novel is collected in the library of Medical School, University of Cambridge (where I find the only copy of the novel except the one in the university library) also suggests the likely inspiration of Lodge's fiction to medical science.

Yes, the Two Cultures debate should have come to an end when we think of the motto of Claude Bernard, a French physiologist and historian of science: *Art is I, science is we*.

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