

WESTERN MICHIGAN UNIVERSITY

Department of History



18 March 2018

I am glad to write this recommendation for Mr Andrew Burch.

I know him from his participation in my course, HIST3060, Technology and Culture, in the Fall of 2015. He was the only one of 36 registered students who merited an A on all three of his term examinations and also on the final examination. He was one of four students to earn an A for the semester grade.

For the first examination, he analyzed the following quotation:

"Technology is often blamed for the evils of the modern world. Some recent critics have blamed science—and this may be assumed to include technology—for the alleged lack of spirituality of the present age, for the decline in religious belief, for present-day materialism. The criticisms are ill-founded. Those who yearn for more spirituality might consider living in one of the fundamentalist nations or communities of the world where they would find spirituality in abundance. As for religious belief, the most damaging attacks have come not from scientists, who by and large are not polemicists, but from numerous social critics, philosophers, novelists, strident nationalists and totalitarian politicians. Materialism might be deplorable but is surely no more than the result of public demand for an ever higher standard of living. The critics are, whether they realize it or not, proposing a state of Gothic ignorance as the ideal. They might reflect that had it not been for science and technology they would, in all probability, not be here to make their criticisms. You cannot enjoy the benefits of modern medicine and public health—of which the most determined of critics would surely approve—without accepting the rest of science and technology." Donald Cardwell, *The Fontana History of Technology* (London: HarperCollins, 1994), pp. 507-8.

In his analysis, he appealed to Henry Adams, *The Education of Henry Adams*, and Robert M. Pirsig, *Zen and the Art of Motorcycle Maintenance*. He concludes, optimistically: "Time will tell whether the aggregate outcome of science and technology will be positive. . . . I am inclined to remain open to any possibility, but I agree with Adams," who (as Mr Burch observes) is troubled by how, a century ago, technology was challenging religious faith.

For the second examination, he analyzed the following quotation:

"We can distinguish the arts from the sciences. Science begins with the world we have to live in, accepting its data and trying to explain its laws. From there, it moves towards the imagination: it

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becomes a mental construct, a model of a possible way of interpreting experience. The further it goes in this direction, the more it tends to speak the language of mathematics, which is really one of the languages of the imagination, along with literature and music. Art, on the other hand, begins with the world we construct, not with the world we see. It starts with the imagination, and then works towards ordinary experience: that is, it tries to make itself as convincing and recognizable as it can. You can see why we tend to think of the sciences as intellectual and the arts as emotional: one starts with the world as it is, the other with the world we want to have. Up to a point it is true that science gives an intellectual view of reality, and that the arts try to make the emotions as precise and disciplined as sciences do the intellect. But of course, it nonsense to think of the scientist as a cold unemotional reasoner and the artist as somebody who's in a perpetual emotional tizzy. You can't distinguish the arts from the sciences by the mental processes the people in them use: they both operate on a mixture of hunch and common sense. A highly developed science and a highly developed art are very close together, psychologically and otherwise." Northrop Frye, *The Educated Imagination* (Toronto: Canadian Broadcasting Company, 1963), pp. 6-7.

Appealing to Jo Marchant's *Decoding the Heavens* and Alfred W. Crosby's *Ecological Imperialism*, he emphasizes that Frye, Marchant and Crosby all distinguish science from technology. He affirms in conclusion: "I personally believe that the ability for society to distinguish science and technology...is crucial....Science requires one to know *why*, whereas technology only demands one to know *how*. If society only ever understands *how*, the potential for...progress become diminished."

For the third examination, he analyzed the following quotation:

"We have witnessed during the century of technological enthusiasm a steady increase in the momentum of large systems of production. The systems mature, grow large and rigid, then resist further social construction. These systems of production, military and nonmilitary, have...become characteristic of modern society and have shaped modern culture. There is a widespread unexamined assumption, especially in the United States, that the modern will project endlessly into the future despite contingency, catastrophe, and attitudinal change....A confluence of circumstances sufficient to break the momentum and change the characteristics of modern technology and modern culture needs to be comparable to the confluence that brought the first industrial revolution in Britain and the second...in the United States. It is important to note that these momentous changes took place in different countries. Britain was unable to break the momentum of the first industrial revolution and become the seat of the second. The momentum of the modern may be so great in the United States that the next great technological and cultural change may occur among other peoples in another nation." Thomas P. Hughes, *American Genesis: A Century of Invention and Technological Enthusiasm, 1870-1970* (New York: Viking, 1989), pp. 470-1.

He observes that diverse critics have addressed large technological systems, whether emphasizing their improvement of the quality of life on the one hand, or producing disagreeable (if unforeseen) consequences on the other hand. To support his contention, he drew on two works: Lewis Mumford, *The Pentagon of Power: Myth of the Machine*, and Walter Isaacson, *Steve Jobs*.

For the Final Examination, he analyzed the following quotation:

"...Government makes healthful laws to protect the community and, in the great international world, can be the voice of our traditions and aspirations. But the fact remains that, in our own century, the state has been responsible for most of our nightmares. No single individual or free association of individuals could have achieved the repressive techniques of Nazi Germany, the

slaughter of intensive bombing, or the atomic bomb. War departments can think in terms of megadeaths, while it is as much as the average man can do to entertain dreams of killing the boss. The modern state, whether in a totalitarian or a democratic country, has far too much power, and we are probably right to fear it... It is significant that the nightmare books of our age have not been about new Draculas and Frankensteins but about what may be termed dystopias—inverted utopias, in which an imagined megalithic government brings human life to an exquisite pitch of misery.” Anthony Burgess, “The Clockwork Condition,” *New Yorker*, 4 & 11 June 2011, pp. 69-72, on p. 74.

He appealed to three books in his analysis: Jules Verne, *Twenty Thousand Leagues Under the Sea*; Henrik Ibsen, *An Enemy of the People*; and Eric Conway & Naomi Oreskes, *The Collapse of Western Civilization*. Ibsen shows “that even though a citizen of a government may truly believe they are doing the right thing, the government may entirely disagree and seek to thoroughly destroy the life of the citizen.” In their dystopic novel, Conway & Oreskes portray “the irony that both the problem and its solutions were known [about global warming], but due to political power being in the hands of large institutions and societal elites, the transition from fossil fuels to renewable energy never occurred. Verne’s novel shows “how hegemonic violence” can lead a talented person to “redirect fear into anger and revenge.” He concludes: “These works clearly show the discontent expressed with government, on levels of repression, censorship, ignorance, and personalized emotion.”

Andrew Burch has a rare ability to provide a succinct evaluation of complex literary works and to relate his evaluation to significant writers.

I have passed this recommendation to Mr Burch for transmission.

Yours sincerely,



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