Science, Tradition, and Utopia

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WHEN WE REFLECT on the always problematic relationship between science and the conservative mind and on how it may unfold in the future, we find ourselves also pondering the past, for our thought takes place within the large shadow cast by the battered but still looming monument of the Enlightenment's legacy.

It has become a commonplace that the legacy is in ruins, that we see only a ghost. There is some support for this observation. It is unquestionably true that the central political theory of the Enlightenment—universal and abstract, ungrounded in history or cultural identity, and now represented by such mainstream liberal thought as the arid Kantianism of John Rawls—is utterly spent, incapable of addressing the significant issues of our time. Also true is that the Enlightenment's towering achievement, the Cartesian-Newtonian mechanistic model that produced modern science, has been eclipsed by twentieth-century scientific developments such as relativity and quantum physics.

The Enlightenment draws critics from many quarters, among the most vocal of recent groups being the postmodernists, who consider people faithful to Enlightenment rationalism nearly as deluded as those faithful to religion. For Richard Rorty the figure to admire is the "liberal ironist" who knows there is no such thing as truth of any kind, but works anyway to achieve a "liberal utopia," where "ironism" would be "universal."[1]

But I think much of this argument underestimates the durability of the Enlightenment ideal, in politics as well as in science. The Enlightenment produced both good and bad political ideas, and as is frequently observed, we may distinguish between a "moderate" or "shallower" version of the Enlightenment and a radical version. The good ideas came from the former, including those that actually took hold in America. The radical and utopian version extended from the *philosophes* to Marx, from the rivers of blood in the French Revolution to the oceans in the twentieth century.

In an earlier America rationalist thought, a body of ideas that in principle supported a radical individualism, could fit into a social order grounded in the strengths of religious traditions and community self-governance and local economies. That America passed into history. Today the Enlightenment's legacy of liberalism, while indeed spent as an intellectual force, dominates the political culture; it is not yet moribund although deeply corrupted, and has hypertrophied

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into a swollen caricature of its former self. The extent to which American liberalism has been transformed is the subject of a recent book by Paul Gottfried, *After Liberalism: Mass Democracy in the Managerial State*. Gottfried describes an entitlement-gorged society ruled by a therapeutic-minded managerial elite. In the dominant political class may be found Democrats and Republicans, liberals and conservatives and neoconservatives; what connects them is a pluralist ideology that proclaims America as a "universal nation" with a mission to promote "global democracy" and protect "human rights."[2] Throughout the twentieth century and most noticeably over the last fifty years, "democratic practice has entailed less and less vigorous self-government, while becoming progressively dissociated from any specific cultural or ethnic heritage."[3] Nor, Gottfried observes, have these changes been effected by coercion; most Americans, as long as they continue to receive the services and benefits to which they have become accustomed, are quite content with the modern administrative state.

The pot of gold at the end of the Enlightenment rainbow was a universal cosmopolitan civilization, a global empire of reason that transcended its constituent parts with their petty separate traditions and historical and cultural differences, to be ruled beneficently and progressively by statesmen under the sway of scientists and philosophers. Conservatives and postmodernists may decry this grand vision, but it is premature to speak of its demise, for today it is not just those on the left who proclaim that America has no real cultural roots and that its only genuine tradition amounts to nothing more solid than an "idea." This is also the argument of some who are called conservatives, prominent among them Straussians such as Allan Bloom who, in an admiring passage on Enlightenment thinkers, points explicitly to the way they linked science and politics together into a single world view and objective:

> The scientists in this system belong to a world order of scientists, for national loyalties and customs are irrelevant to them as scientists. They are cosmopolitan.... There is only one science. It is the same everywhere and produces the same results everywhere. Similarly, there can, in principle, be only one legitimate political order, founded by, on, and for science. There may well remain individual nations with old but decaying traditions.... But the nations must all gradually become similar. They must respect the rights of man.[4]

Emanations of this Enlightenment reverie continue to spread through the world. The end of the Cold War brought the defeat of one of the two great rival systems born from Enlightenment thought. Since then there has been a relentless effort to construct a new world order whose outline is so far largely written in acronyms: NAFTA, an expanding NATO, WTO, and surely many more to come. A globalist ideology links politics and economics, the latter driven by science and technology.

In the United States today the only tradition given official approval is the one born of Enlightenment rationalism, now embodied in the radically antinomian impulses proliferating since the 1960s. Because the particular tradition this story celebrates is the same one that produced modern science, it is unable to provide help in dealing with the kinds of problems modern science has created. However true it may be that scientists' thought is no longer ruled by mechanistic causation, and however candidly some of them may speak about science's limitations, those problems are grave and unprecedented.

Science itself reflects the natural human desire for knowledge about the world, and just as there was rationalism before the Enlightenment, there was sci-

ence before modern science; nature was observed in order to understand by reason the universal essences of revealed truths. But in the fourteenth century, the nominalist movement brought a new conception of God's omnipotence, William of Ockham's *via moderna* and new theories of knowledge that led to the disintegration of the medieval synthesis and opened the door for the later rise of empiricism. By the seventeenth century Bacon and Descartes no longer perceived a teleology that gave humans a place within nature; human reason could now be used as a weapon with which to dominate nature.

Behind the Enlightenment's great abstract political and moral ideas such as Locke's natural rights and Kant's autonomy of the will lay science and technology, promising security and comfort. Indeed, without that promise and its increasing fulfillment the ideas would have been empty, or rather would never have appeared. Since Americans today look largely to science and technology to make possible their security and comfort, the political and scientific establishments share a central viewpoint with American business about the necessity of ceaselessly expanding our technological frontiers. That the planet has suffered widespread environmental devastation is a fact of which few people are unaware; that our obsessive technological boundlessness has much to do with this seems obvious, but does not produce the same unanimity of opinion.

Nevertheless, any thoughtful assessment of the subject has no place for illusions about modern people returning to simpler conditions, for asking a contemporary Westerner to imagine life without science and technology is akin to asking a medieval person to imagine life without the Catholic Church. When an influence so completely permeates the human experience from birth to death, most people most of the time take it for granted. Nor can it be denied that science and technology have produced enormous material benefits, making our lives immeasurably easier than the lives of those who came before us.

I want to discuss first a development within science that is salutary, then another that is disturbing. The first, which could have very broad ramifications, is a movement away from randomness. This is not to suggest that most scientists have abandoned chance as a perfectly satisfactory explanation, only that for many of them its adequacy is diminishing. There is, for example, the now well-known Anthropic Principle, the argument advanced by some physicists that since only very slight differences of value in the fundamental forces of physics, such as gravity and electromagnetism, would have resulted in an entirely different universe in which life would have been impossible, the universe seems to have been precisely calibrated for life from the beginning. The implication of design in this argument has of course not gone unchallenged by other physicists; one response charges that it is merely a tautology to say that this universe in which we find ourselves must be compatible with our having appeared. The debate, however, will not end any time soon. In John Polkinghorne's view, to think "that no explanation is required of fine anthropic coincidences" is comparable to saying "that my fishing apparatus can accept a fish only exactly 23.2576 inches long and, on casting the rod into the lake, I find that immediately I have a catch, which is simply my good luck—and that's all there is to say about it."[5]

In another area of science, difficulties in Darwinism are now notorious (despite insistent claims to the contrary by people like Daniel Dennett and Richard Dawkins). The extreme and fortuitous contingency on which Darwinian theory relies represents a puzzling question for many scientists. In particular, the human mind is

just too powerful to be explained in terms of evolutionary overspill. A Stanford geneticist refers to a physical constant in quantum electrodynamics that is known to nine decimal places, and asks: "How can it be that this brain that we have is able to do maths that can get to that constant and yet this thing was evolved in order to solve problems about how to pitch a spear or how to track something? You don't need nine decimal places to make a calculation of that kind in your head."[6]

It has finally become possible to express reservations about Darwinism without being stamped as a bigoted halfwit. Forceful arguments for intelligent design have begun to appear, and more will certainly follow, and by no means are all of them made by "creationists" who claim the earth is only six-thousand years old. One of the most impressive is an investigation of the issue of gradualism by Michael Behe, a biochemist. According to Darwin's theory, the mechanism of natural selection working on random variation leads to gradual changes in species, such that over large periods of time, separate species appear. Darwin himself said that his theory "would absolutely break down" if that part of it were overturned.[7] By examinations of several processes at the molecular level, including a painstaking analysis of blood clotting, Behe shows that Darwin's gradualist argument on which his theory depends faces insurmountable problems, and he concludes that "life was designed by an intelligent agent."[8] Writing as a scientist, Behe takes the argument no further, but he remarks on how so many scientists become nervous at the thought that religious implications might be found in scientific explanations.

That there is no inherent conflict between religion and science has been persuasively argued by Polkinghorne and Stanley Jaki, both of whom are clergymen trained in physics, and have written thoughtful books on the essential compatibility of religious faith with scientific knowledge.[9] In fact this subject has by now been explored in numerous books and articles, both scholarly and popular, but it would probably go too far to claim that religious believers constitute any substantial percentage of the scientific profession.

Even as these healthy signs appear, a contrary development is occurring, of a kind that is always a danger signal to conservatives: contemporary science's tendency to generate a utopian outlook and spirit. The particular utopian visions that led to the terror of the Soviet state have lost much of their force, but it seems a characteristic of the utopian virus that, while it may with effort be kept in check, it can never be completely eliminated. What gives this new utopianism vitality is a bedrock materialism that remains potent in contemporary science despite the above-mentioned critiques, and that is now invigorated by dramatic new achievements in one field. Among the many scientific materialists, a man who speaks with special authority is Edward O. Wilson, one of the world's foremost scientists. The biologist who coined the word sociobiology over two decades ago, Wilson is noteworthy not only for his stature, but also because his outlook on the future of science amounts to an imperialistic project supported by a utopian vision.

When Wilson presented the case for sociobiology in his book *On Human Nature* in 1978, he argued that human beings are genetically predisposed to basic features of social behavior as well as religious belief; he predicted that "scientific materialism" would someday show religion to be "a wholly material phenomenon."[10] In his recent book *Consilience: The Unity of Knowledge*, he has not modified these views, and in fact reveals how robust his ambitions for science have grown in twenty years. As-

serting that "Science offers the boldest metaphysics of the age," Wilson again discusses sociobiology and says its most important line of research now is in gene-culture co-evolution. But he goes far beyond that subject to argue that a "consilience" or unification of all knowledge is possible, since nature is organized by universal laws of physics to which all other laws and principles can be reduced.[11]

That this claim has an air of the Enlightenment about it is not accidental. Wilson calls the Enlightenment "the West's greatest contribution to civilization," and early in the book devotes an entire celebratory chapter to it, boasting: "Science was the engine of the Enlightenment,"[12] and includes a long admiring tribute to the aristocrat, mathematician, and later revolutionary Marquis de Condorcet. It is an interesting choice of heroes. Condorcet has been seen, not infrequently and not only by conservatives, as a prime example of a *philosophe* with a tendency toward utopian giddiness due to his opinions about human perfectibility, inevitable progress, and the use of mathematics to determine which social laws rule history. No matter. That Condorcet believed "culture is governed by laws as exact as those of physics" is cause for praise, not censure, and Wilson reminds his readers that "the original Enlightenment died within philosophy but not within science."[13]

He devotes considerable attention to religion, telling of growing up as a pious believer in a Southern Baptist home and of being "released from the confinement of fundamentalist religion" when he discovered evolution in college.[14] Science *is* religion for Wilson. "People need a sacred narrative," he writes. "The true evolutionary epic, retold as poetry, is as intrinsically ennobling as any religious epic. Material reality discovered by science already possesses more content and grandeur than all religious cosmologies combined."[15] He believes religion's usefulness will eventually come to an end because, for some reason he never makes clear, the story of evolution will become more meaningful to men and women than all those ancient, timeless stories.

Wilson's notion of the unification of knowledge basically means extending the influence of science into other intellectual and creative pursuits. He believes that all the other disciplines—philosophy and history and theology and economics and the rest, even the appreciation of art—will be revitalized by incorporating the spirit and empirical methodology of the natural sciences. It is an imperialistic overview of striking boldness. He seems to imagine that this vast reductionist, scientistic scheme is feasible.

Wilson thinks that the fact that human action involves physical causation means that other fields cannot continue to resist an "alliance" with the natural sciences. He apparently has some kind of friendly merger in mind, although his assumptions about the towering heights science occupies implies that a hostile takeover is more likely, not to say inevitable. In any case, if such future combinations occur it is certain who will be in charge. Few philosophers are likely, for example, to find these words inviting: "Philosophy, the contemplation of the unknown, is a shrinking dominion. We have the common goal of turning as much philosophy as possible into science."[16] One notes the phrase "as much...as possible" and wonders what happens to the parts on which this alchemy does not work. Are they sent off to a museum of culture?

Doubtless many scientists would disagree with Wilson on some of his particular opinions, but he is far from alone in his basic outlook. What one notices in a great deal of scientific commentary are assumptions—often tacit, seldom articu-

lated with the sweeping audacity of Wilson's vision, but quite clear—about science's wide-ranging but not fully appreciated explanatory capacities. Wilson's is but one voice among many to speak of the superior powers of science (and it is *only* science in which some seem to have confidence) to lead the human race into a golden future.

A deep scientific utopianism within Enlightenment thought, as can be seen in Condorcet's fantasies of perfectibility, was present from the first, well before the eighteenth century. Francis Bacon (also a great hero of Wilson's) was the herald of scientific progress, the first man to connect science directly to "the relief of man's estate." He was an empiricist, a practical man, a promoter, but he also penned a scientific utopia, *The New Atlantis*, published in 1627, the year after his death. It was a mystical vision of a future paradise achieved after the recovery of hidden ancient knowledge; by unlocking nature's secrets, the human race found perfection in the technocratic state.

One field of science above all now brings forth this dream of perfection, now believes it possesses the key to the golden future. Not surprisingly, it is Wilson's field, for a new utopianism springs from the biological sciences and points humanity toward profound dangers. Biology today, like physics several decades ago, is experiencing a revolution of tremendous significance. Probably the two most momentous achievements of science in the twentieth century were splitting the atom and unraveling the double helix of DNA. We have barely begun to realize the implications of the latter.

Molecular biologists have laid their hands on the blueprints of life itself. For the public, the issue of cloning so far offers the most vivid glimpse into the new biology. When the idea of cloning human beings left the realm of science fiction in 1997 with the first cloning of a mammal, the famous sheep, Dolly, the possibility outraged most people. But this issue is of such extraordinary significance that the most revealing aspect of the early responses was not the many people who found the possibility horrifying, but the considerable number of presumably responsible people who either supported it or were—as Americans like to say, neatly encapsulating the liberal moral stance—"nonjudgmental."

A scientist from the University of California offered the assurance, "We do not plan or seek to clone entire human beings," but warned that any restriction on scientific research threatened medical advances of great benefit to humanity. Democratic Senator Tom Harkin of Iowa declared flatly: "I do not think there are any appropriate limits to human knowledge, none whatsoever," and compared efforts to ban human cloning research with the silencing of Galileo. A writer for *U.S. News & World Report* felt that a ban could not be justified because the advantages might be so great: perhaps a grieving couple with a dying child could replace the child. But even if cloning offered no obvious benefits, the larger point involved "human rights." "A world not safe for cloned humans would be a world not safe for the rest of us."[17]

The last sentence sounds like a parody of liberal vacuity, but alas, the writer was completely serious. Only nine months after the first news of a cloned sheep the *New York Times* reported: "There has been an enormous change in attitudes in just a few months; scientists have become sanguine about the notion of cloning and, in particular, cloning a human being." A scientist was quoted: "The fact is that, in America, cloning may be bad but telling people how they should reproduce is worse."[18] The worst thing now in America is to voice fixed standards of moral behavior, to be "judgmental" of others. The only acceptable standard is personal choice.

Human cloning remains at present only a theoretical issue, but genetic engineering is a reality that will be with us from now on. One type of it, gene replacement therapy, has been in use since the early 1990s. It immediately raised great hopes, which to date remain higher than achievements, but new techniques continually appear. Obviously the world would joyously welcome news that humanity's worst diseases could be cured. For the media, and for some scientists such as Lee Silver, the Princeton molecular biologist and tireless promoter of a genetically blessed future, the prospect itself is exhilarating enough to make a humanitarian rationale unnecessary.[19] Much speculation occurs about uses such as "enhancement therapy" to create "designer babies" by offering prospective parents genes to make their children smarter, taller, faster, stronger, or about finding a "Methuselah gene" that will let people live to be 150. And much more. In one sense these are showcases for standard technocratic ideology: if it can be done, it is very hard to find a convincing reason not to do it. But behind that is a new vision with a new message: We offer not daydreams like the past, but real information and real tools, so that now we may truly talk of approaching perfection. Behind the message, however, is no particular purpose, only the guiding rule that, since each individual must choose his or her own ends in life, the maximum of "self-fulfillment" should be made available in the market.

Also to be kept in mind when contemplating developments in the biological sciences is the expectation of incalculable profits. Genetically altered foods are now commonplace in America, but are only a tiny piece of what is promised. From small bioengineering firms to large chemical, pharmaceutical, and agribusiness corporations, biotechnology is aggressively fashioning our future.

So far gene replacement therapy is somatic therapy, *i.e.*, operating on somatic cells which affect only an individual patient, but there is a far more radical form—like cloning, still theoretical—known as germ-line therapy. This procedure, if and when developed, would transplant genes into the sperm, egg, or embryonic cells. It would no longer be a case of making alterations only in a particular individual's genes; the genetic changes would be passed on to future generations. In other words, what is contemplated is crossing the final boundary in the hubristic modern project of conquering nature. Germ-line intervention would carry us over the border into uncharted territory the media does not even begin to describe when it poses the question, at each new juncture, of whether we should "play God." At that point, humans would be engaging in fundamental and permanent manipulations at the innermost core of life, and they would literally be attempting to alter irreversibly what it means to be a human being.[20]

Most geneticists understandably prefer not to discuss this subject publicly. When they do, they talk about the medical potential; for example it is said that if human DNA could be permanently changed so that future generations would be immune to some dreadful disease, a great good would have been accomplished. Who can argue that eliminating a source of terrible suffering is wrong? But it is not so simple as that. What must first be honestly faced is the imponderable question that Burke raised long ago during the days of Enlightenment, the question of unintended consequences. Here, the dangers implicit in the unintended and unforeseen consequences would be of such an order of magnitude as to overwhelm all the previous examples that history so generously affords.

Authorities in the field are not especially helpful. One recent study of the new genetics by Philip Kitcher was well

reviewed and highly praised as a model of ethical assessment. Kitcher, a philosopher, supports eugenics. Not every eugenics, of course; the Nazi kind and some others are condemned. Kitcher wants what he explicitly terms "utopian eugenics," a laissez-faire solution in which well-informed individuals would make their choices, and society would be supportive of whatever they chose. Kitcher tries to show some of the ways our society can get all the way to that destination.[21] On "quality of life" as a proper consideration in choosing abortion or euthanasia, Kitcher's opinion is that "ancient maxims need rethinking." He looks at each issue from different perspectives, but his argument consistently reflects the liberal standard on questions of value: freedom of choice trumps every other standard. Even regarding germ-line intervention he offers not straightforward criticism, only the evasive advice to do "advance thinking" before the issue materializes, and downplays the "bogeys" people have created about it.[22] Kitcher nowhere mentions Richard Rorty, and his professional interests are different from his fellow philosopher's, but he has much in common with the postmodern ironist for whom truth does not exist but who wants to build a "liberal utopia" on ungrounded preferences.

It is clear how great is the need for conservatives to look to the future. (Certain present trends might suggest a scenario of a not so distant day when most Americans only leave their homes if absolutely necessary and spend the rest of their time on the Internet, shopping and checking their portfolios and searching for genetic fixes to keep their bodies young and their minds calm, but one assumes this would be an exaggeration.) As for the future that geneticists envisage, while we may be told that their more ambitious projects are many years from realization, we are aware that they already possess a vast store of information which is being continually enlarged. The accelerating revolution in biology contains much potential for good. What is unsettling are its new and unique powers and a utopian element visible throughout the biotechnological enterprise. What will be done with the power? Where may a line be drawn? How is an argument made that any line exists?

It is not to science that we should look for answers to these questions, not even to a field such as sociobiology. While it was once vehemently attacked from the left for appearing to minimize environmental influences on culture and provide support for discrimination, sociobiology has been thought by some conservatives to offer scientific support for natural law, since it posits a genetic basis for human behavior. One writer has recently argued for a common ground between the position of Edward O. Wilson and that of Thomas Aquinas.[23] But any argument along these lines will encounter difficulties, not the least of them being that there is no purposive content in Wilson's view of evolution, while the natural law tradition, and certainly the teaching of Aquinas, is teleological.[24]

According to an often repeated phrase, science and technology are neutral and whether they result in good or ill depends entirely on how humans use them. The literal sense in which this statement is true is so trivial as to be meaningless. In every important sense, science and technology are never neutral or autonomous but are always guided by the commanding moral sentiments of a people, for it is not as if humans were in a vacuum making random selections. The commanding sentiments of our time and place are thoroughly progressivist and hedonistic and thus scientific and technological "advances" are always understood in light of the supreme goods of modernity, security and comfort. In this process of calculations, limits is a word of scant

appeal.

The perennial allure of a utopian escape from human limitation is a malady many great thinkers have diagnosed since it took destructive form in the eighteenth century. The best of them have shown how necessary is rootedness to human life. Burke, Henry Adams, Irving Babbitt, Michael Oakeshott, Russell Kirk, the Southern Agrarians, Richard Weaver—these and others, from different perspectives and with different vocabularies, have spoken of the indispensability of tradition.

To criticize modern scientific rationalism does not commit one to a suspicion of rationality itself, and not every praise of tradition helps us face modernity's peculiar problems. The question is whether conservatives will be able to sustain the most important traditions, to protect the things that most matter. Memory and passion and imagination will be as vital as always, but reason too will be necessary.

In what follows I want to look at a contemporary thinker, one who may not even wish to be called conservative, though conservatives have much to learn from him. Alasdair MacIntyre's work has been centrally concerned with the question of tradition, especially as it is framed within the liberal hegemony of modernity. The subjects on which he concentrates in *After Virtue*—the classical moral tradition as represented by Aristotle and Aquinas, the Enlightenment project's failure to establish a universal morality, the incoherence of modern liberal thought which can provide no justification for objective moral standards and espouses only freedom of choice—set the parameters for his later works *Whose Justice? Which Rationality?* and *Three Rival Versions of Moral Enquiry*.

Premodern thought is teleological: man has an essence which defines his end. In the ancient and medieval views, both the polis and the kingdom are, in MacIntyre's words, "conceived as communities in which men in company pursue *the* human good and not merely as—what the modern liberal state takes itself to be—providing the arena in which each individual seeks his or her own private good." MacIntyre wants to restore a *telos*, grounded not in nature but in historically conditioned cultures and the "practices" that allow humans to cultivate virtues.[25]

Although liberalism began as an appeal against the tyranny of tradition, it became itself a tradition, but an empty one whose only overriding good is the perpetuation of the liberal social and political order.[26] A paradigm of it can be found in the modern university. MacIntyre's commentary on this subject contains a message pertinent to the presumptions of scientism advanced by Wilson and others. The premodern university had embodied either a particular tradition of inquiry or a limited set of traditions, "a multiplicity of contending beliefs." For instance, the University of Paris in the thirteenth century had its rival Augustinian and Aristotelian thinkers. The modern liberal university was founded on the abolition of religious tests for faculty but, by seeking to establish "objectivity," it required the faculty to teach as if they all shared a common standard of rationality. This approach worked out well for the natural sciences, but the humanities—*contra* Wilson—do not have the same mission as the sciences; they are the transmitters of culture. The modern university has stripped the humanities of the cultural contexts provided by contending traditions.[27]

MacIntyre speaks from within the Aristotelian and Thomistic tradition, which, to say the least, appears to have little in common with the dominant tradition; however, he abhors a situation in which all the people talking are "conservative liberals, liberal liberals, and radical liberals."[28] He wants a serious debate be-

tween rival traditions, and imagines a "reconceived" university, a kind of "re-establishment of thirteenth-century forms" with modern content, where contending traditions carry out their own divergent inquiries while engaging in fundamental debate with each other.[29]

MacIntyre insists that a healthy tradition is rational, though what he chiefly defends is a premodern practical reasoning very much at odds with modern conceptions of rationality. For MacIntyre a living tradition—what he calls "an historically extended, socially embodied argument"—carries on a continual internal debate, affirming and discarding, conceding the valid criticisms of its rivals, and renewing.[30] He hopes for a place where conflicting traditions may make their rival claims of rationality and justice, and may be shown the ways in which, on their own terms, they are inadequate.

Basic to MacIntyre's argument is a discussion of the consequences entailed in such a debate. After sharers of one tradition have understood the beliefs of the other tradition,

> they may find themselves compelled to recognize that within this other tradition it is possible to construct from the concepts and theories peculiar to it what they were unable to provide from their own conceptual and theoretical resources, a cogent and illuminating explanation—cogent and illuminating, that is, by their own standards—of why their own intellectual tradition had been unable to solve its problems or restore its coherence.[31]

Such a debate at present is most unlikely for, indeed, the liberal mind perceives that the final debate is already over and history has judged liberal democracy the winner. Furthermore, no one familiar with the contemporary university expects to see it arise from its immersion in nihilism any time soon. What MacIntyre has attempted is to show the continuing strength of an older rationalism, and it is not necessary to accept all of his communitarian presuppositions, or subscribe to his Thomism, in order to appreciate the depth of his analysis. He has revealed one way in which a *telos* of moral inquiry may be understood.

At the beginning of a new century in the deepening crisis of modernity, it appears doubtful that our civilization can recover unless it somehow finds its way back to a teleological view of life. Words such as T. S. Eliot's, from "East Coker" in 1940, already seem to belong to the language of so distant a time that the consciousness of the present can scarcely bear the full weight of their meaning: "The only wisdom we can hope to acquire / Is the wisdom of humility: humility is endless."

Science presents us with promise and danger and ambiguity. Difficult decisions lie ahead. If many struggles of the past were animated by the idea of what it means to be free, central to the struggle towards which we move will be the idea of what it means to be human.

1. *Contingency, Irony, and Solidarity* (Cambridge, Mass., 1989), xv. **2.** Princeton, 1999. See Gottfried's excellent discussion in Chapter 4, "Pluralism and Liberal Democracy," 72-109. **3.** *Ibid.*, ix. **4.** *The Closing of the American Mind* (New York, 1987), 287. **5.** *Belief in God in an Age of Science* (New Haven, 1998), 6-7. **6.** Bryan Appleyard, *Brave New Worlds: Staying Human in the Genetic Future* (New York, 1998), 146. **7.** *Darwin's Black Box: The Biochemical Challenge to Evolution* (New York, 1996); Darwin quoted on p. 39. **8.** *Ibid.*, 252. **9.** See *Belief in God in an Age of Science*, and among Stanley Jaki's numerous books, see in particular *Cosmos and Creator* (Chicago, 1980). **10.** New York, 1978, 201. **11.** New York, 1998, 12, 55. **12.** *Ibid.*, 14, 22. **13.** *Ibid.*, 19, 209. **14.** *Ibid.*, 4-6. **15.** *Ibid.*, 265. **16.** *Ibid.*, 12. **17.** These comments on cloning are in *Cloning: For and Against*, ed. M.L. Rantala and Arthur J. Milgram (Chicago, 1999), 214-217, 118, 50-52. **18.** December 2, 1997. **19.** See his *Remaking Eden: Cloning and Beyond in*

a Brave New World (New York, 1997). **20.** *Brave New Worlds,* 23, 163-164. **21.** *The Lives to Come: The Genetic Revolution and Human Possibilities* (New York, 1996), 201-204, 233-238, 323-326. **22.** *Ibid.,* 123-124, 301. **23.** Larry Arnhart, "Evolution and Ethics," *Books & Culture,* 5 (November-December 1999), 36-39. For an informed study which contains an interesting discussion of sociobiology and natural law, see Thomas Fleming, *The Politics of Human Nature* (New Brunswick, 1988). **24.** John Caiazza has provided an outstanding analysis of sociobiology in "Sociobiology and Human Nature," *The Political Science Reviewer,* Vol. XVIII (1988), 253-284. Also see his review of Fleming's book for a discussion of the issue of conservatism and sociobiology, in *Modern Age,* Vol. 34, No. 1 (Fall 1991), 73-77. **25.** *After Virtue* (Notre Dame, 1981), 160, 174-183. **26.** Alasdair MacIntyre, *Whose Justice? Which Rationality?* (Notre Dame, 1988), 334-335, 345. **27.** *Ibid.,* 399-400. **28.** *Ibid.,* 392. **29.** *Three Rival Versions of Moral Enquiry: Encyclopaedia, Genealogy, and Tradition* (Notre Dame, 1990), 216-236. **30.** *After Virtue,* 207. **31.** *Whose Justice? Which Rationality?,* 364.

Social Science and the Future of Sexuality

John Caiazza

THE RECENT PUBLICATION of two books provides an opportunity to reflect on the profound but destructive influence of social science on our culture's attitudes towards sexual behavior. In his *The Fateful Hoaxing of Margaret Mead,*[1] Derek Freeman details the case he made earlier, that Margaret Mead was deliberately misled by three young Samoan women on whose testimony she largely based her famous account of guilt-free sex in *Coming of Age in Samoa,*[2] and further that her general account of Samoan society as a place of idyllic adolescent sex, and as a kind of pre-lapsarian utopia characterized by an easy, frictionless social life was grossly inaccurate. James H. Jones's biography, *Alfred Kinsey: A Public/Private Life,*[3] details the career of the most famous of the sex researchers, exposing the grim and horrifying details of Kinsey's own sex life, a very troubling aspect of which is the degree to which Kinsey's sexual pathologies influenced the outcome of his supposedly value-free scientific research, including even his statistics. These two books make the case that social science was corruptly used to convince the American public that a deterioration of its traditional sexual morality, transmitted by tradition and sustained by religion, was an inevitable process which would result in a progressive, healthful, and expressive attitude towards sexuality. In both cases, social science serves not as an independent source of facts the truth of which is guaranteed by the rigorous application of the scientific method, but as a purveyor of false values whose destructive effects are felt to this day. The larger question raised here is whether social science can ever be trusted as a guide for sexual matters and for human behavior generally.

The immediate purpose for Mead's research published in *Coming of Age in Samoa* was to examine the nature of adolescent sexuality.[4] The psychological explanation, or more generally a developmental approach most often associated with the theories of Freud, explained adolescence as a time of personal and social stress ignited by sexual feelings and impulses which caused a conflict between natural adolescent desire for sexual knowledge and experience, and the rules, ethics and demands of religion and society. As against this view, Mead's famous and influential mentor Franz Boas proclaimed the thesis of cultural determinism, that the *sturm und drang* of adolescence was merely the reaction of individuals to the restrictions of their ambient cultures.

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