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Hendrik van Riessen Memorial Lecture 2006

AN EXPLORATION OF RELIGIOUS-PHILOSOPHICAL PERSPECTIVES ON TECHNOLOGY: TOWARD A DIALOGUE AMONG TRADITIONS

Carl Mitcham

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Preface

The following text has been expanded slightly from a lecture read at the Technological University of Delft on 21 April 2006. As is often the case, there were certain difficulties with transforming a text composed for oral delivery to one written for publication. One can employ a more dramatic phrasing in person, with body language personal interactions to qualify it, than it would be appropriate to use when the same text takes printed form. I have nevertheless left some of oral phrasing in tact, with an appeal to readers to give the text as a charitable an interpretation as they can. There are also always desires to make a printed text more complete than what might be necessary in an oral presentation. Although I have made some modest elaborations here and there and added notes, I have also resisted trying to go as far as I would like in this regard. The recurring "I" in the present version also bothers me to some extent, but to have become more scholarly would have imposed a kind of artifice if not a false image of detachment.

Introduction

Let me begin by thanking Professors Marc de Vries, Egbert Schuurman, and others for the invitation to give this inaugural Hendrik van Riessen Memorial Lecture. To have the opportunity to renew my acquaintance with Van Riessen's thought — especially here at his home institution, the Technological University of Delft, one of the premier technological universities in the world, and among those who knew him personally — is a great honor. I am aware of being in the presence of the spirit someone whose life and thought have significantly deepened intellectual reflection in the Netherlands, one of the leaders not simply in technology but in critical philosophical reflection on technology, and whose influence has extended into the world at large. When, as a student, I began to be drawn to technology as a theme for philosophical reflection, it was stumbling onto the work of Van Riessen and others — such as José Ortega y Gasset, Martin Heidegger, and Jacques Ellul — that reinforced my sense of the legitimacy of the philosophy and technology studies enterprise. I can still recall in the early 1970s seeking out a Dutch-speaking graduate student who could provide me some rudimentary translations

from Van Riessen's *Filosofie en techniek* and being disappointed that I could not read more. Indeed, it is the inspiration of Van Riessen and that mid-20th century generation of thinkers from whose company he is too often (as a result of the contingencies of history and dissemination) excluded, that can recall us to a level of seriousness and analytic depth that is unfortunately sometimes lacking in the social constructionist reflection on science and technology that has become characteristic of the opening decade of the 21st century — a criticism I would direct as well against some of my own bibliographic and editorial scholarship. Van Riessen's work provides a level of achievement that to date has failed to be as generally appreciated as it deserves, and constitutes a model of informed reflection that I can only aspire to emulate. When a mere scholar such as myself is invited to honor an original thinker such as Van Riessen, in the presence of one of his foremost students and a successor holder of the chair that bears his name, I am inevitably more honored than the one to whom I would give honor. It is thus with genuine awareness of my own limitations that I have accepted this invitation and now take up the challenge. At the same time I must ask your permission to develop arguments which, while they begin with Van Riessen, venture thoughts with which he would be unlikely to agree — even though the spirit of his work might, I dare suggest, appreciate the question I endeavor to broach. The basic question I wish to address concerns religious-philosophical perspectives on technology or, more specifically, the possibility of a dialogue among diverse religious traditions concerning the challenges of modern technology. Certainly it is the case that Van Riessen undertook to place technology in a particular religious-philosophical perspective, that is, a Dutch Reformational perspective. Drawing on Van Riessen's achievement in this regard, I propose to move from a dialogue (1) between religion and technology within a particular Christian tradition, to a dialogue (2) among different Christian approaches to technology, and then to consider the possibility of a dialogue (3) between Christian religious approaches to technology and those of other religious traditions. Given this three-fold aspiration, the presentation will readily fall into three sections. Since religion entails a type of personal commitment that is often in tension with scholarship, and given that Van Riessen openly professed his own religious affiliation, perhaps it would also be appropriate at the beginning for me also to make some modest profession in this regard. Although raised a Protestant, I early joined the Catholic Church, drawn in part by the critical stance the Catholic tradition has sometimes taken toward modern technology. More recently, however, I have come to doubt the adequacy of the Catholic stance. This doubt has led in turn to an investigation of Buddhism as the source for an alternative approach to technology. Such a trajectory may strike some as entailing a philosophical rather than an authentically religious assessment of religious traditions. Insofar as this is the case, it reflects a parallel commitment to philosophy in a premodern sense, in which philosophy functions as a kind of religion. It is indicative of this commitment that my talk does not attempt to place technology in a theological perspective but in a religious-philosophical one. With all of this as preface, let me now turn to the first section of my three-part effort to explore religious-philosophical perspectives on technology.

1. Religion and Technology According to Hendrik van Riessen

Let me begin in earnest with a brief account of Van Riessen's approach to the religion and technology relationship — an approach that sought especially to attend to the inner character of technology itself. One of the most distinguishing features of Van Riessen's thought, arising as it does out of the philosophical sensitivities of an engineer, is its careful analysis of the structures distinctive of modern technology. As I read Van Riessen, his basic aim was to deepen the mid-20th century philosophical assessment of technology, an assessment that has often been called a cultural criticism, in two respects: by enhancing the analysis of the internal structure of technology and by bringing to bear the Reformational perspective in which human beings are subject to what is termed a "cultural mandate" from God.

1.1 The Structure of Technology

Van Riessen's analytical opening up of the black box of modern technology — an opening that is quite different from the sociological opening followed in the generation after his retirement — may be reviewed and elaborated as follows. Modern technology emerges not as mediation between humans and their world but as instrumentarium, an enhancement of the tool as that by which humans act into the world. Right away this is an important distinction that differentiates Van Riessen's philosophy of technology from that of, for instance, Don Ihde, whose phenomenological description of human-technology-world relationships identifies both embodiment (or body extending) and hermeneutical (or perceptual transformation) mediations.¹ For Van Riessen, technology does not so much alter human

relations with the world as simply an expansion of human tool-using capacities. Grounded in a kind of engineering realism, he thinks of technology as continuous with a tool-based effort to transform the world. In its modern form, of course, this instrumentarium is distinguished by increasing control over technological functions, greater independence, enhanced reflection, and intellectualization. In its premodern form not only were all four aspects of instrumentality less pronounced, but they failed to be distinctly identified as such.² Such differentiations interior to technology mirror other differentiations in culture as a whole, one example of which is the very differentiation of technology itself from religion, politics, economics, and art — that is, its autonomy as a cultural activity. As an increasingly independent or semi-autonomous component of culture, control is enhanced precisely through that analytic reflection and intellectualization which is typical of modern scientific rationality. The result is a bifurcation of technology into preparation and execution activities. What is most distinctive of and central to modern technology, which itself is most highly manifest in modern engineering, is the activity of engineering design. The designing process as such is not to be found in premodern technology and constitutes a distinctive way of turning making into thinking, engendering at one and the same time a special kind of making and a unique form of technical thinking.³ Prior to the rise of modern technology design was hidden or embedded in craft making. It is worth noting that there is no word in classical Hebrew or Greek that directly translates as “design.” Premodern artisans in their particularities of body, place, and history were both those who conceived or imagined artifacts and went to work to fabricate them. Aboriginally they were also often the users. Artisans in wooded geographies tended to work with wood, wood that grew near their workshops; artisans living in rock-rich landscapes worked with stone, stone quarried from the local geographies. Such artisans worked also with the strength and skills of their own bodies, and within the traditions of their peoples or cultures. Each artifact so fabricated had its unique body, place, and history. There were no generalized things or things in general. All things had a specificity that is now both highly prized and difficult to produce. The design process was disembedded from this rich, intricate context by the demands of mechanization and the increasing division of labor. Coordinate with the replacement of human power with coal and steam-driven prime movers, and the gearing of power into repetitive motions in order to mass produce identical products, two things happened. As design historian Penny Sparke has summarized this trajectory: first came a need for the designer as pattern maker for artifacts that could be mass produced; second came a need for the designer as form giver for artifacts that could be mass marketed.⁴ Van Riessen focused on the first moment in this emergence of the design process. But in fact the two conspired to turn users into consumers in much the same way as Hannah Arendt argues mass production turned workers into laborers,⁵ repetitive shopping serving as the leisure side echo of the repetitive mechanical motions required of industrial laborers. Modern technology manifests its distinctiveness not just in preparation (design) and execution (labor) but also in appropriation (consumption) — with the four features of modern instrumentality, that is, control, independence, reflection, and intellectualization, apparent throughout. Consider again the issue of engineering design, which was Van Riessen’s own emphasis. Reflective control is pursued by means of an intellectual transformation of the features of the world disclosed by modern natural science into what Van Riessen terms “neutral” elements available for technological utilization. “Neutral” here simply means isolated, decontextualized, disembedded, standardized, and interchangeable. The incorporation of such elements into technical and consumer functions has been the defining task of those engineers who think out the internal structure of products in terms of mechanical, chemical, and eventually electronic, molecular, and even genetic qualities perceived and utilized as functions. The role of technical or engineered functions thus becomes central to modern technology — and is now being taken down to the nanoscale. This has been recognized most noticeably in the “Dual Natures Program” piloted here at TU Delft by Peter Kroes and Anthonie Meijers — a program that, although it makes no explicit reference to Van Riessen, nevertheless seeks to deepen the understanding of engineering design and its relations to science in ways I suspect he would readily appreciate. In Kroes and Meijers’s terms, technical artifacts are said to have dual natures insofar as they are both physical entities that can be described by science and as they realize functions that can only be described in terms of human intentionality.⁶ The mutual interpenetration of scientific knowledge and human intention takes place through engineering design which in subtle ways transforms both.

1.2 The Reformational Perspective

What is the religious problem created by this new form of technology as engineering design? According to Van Riessen, its most general statement is alienation. What Van Riessen means by alienation goes well beyond the concept found in the thought of Karl Marx, with whom this problem is most commonly associated. Van Riessen admits, in words resonant of Marxism, that “everyone

becomes somewhat alienated through modern technology — alienated, that is, from the meaning of work, from the client for whom the work is intended, from nature, and (in large corporations) from the fellowship of work.”⁷ But referencing the thought of Romano Guardini, a Catholic cultural critic of technology, Van Riessen, goes further, and asserts that all such determinate alienations are grounded in another: alienation from God. In opposition to Heidegger’s definition of modern technology as a kind of truth or revealing that turns being into Bestand or resource, Van Riessen argues, first, on the basis of his philosophical analysis of the technical features of the engineering design process, that technology is “tool-equipped forming power” depending on “a neutralizing function-analysis and an individualizing function-integration.”⁸ Second, Van Riessen asserts that this tool-equipped forming power is “potential and active, for the unfolding of the creation vis-?-vis its natural side and for the disclosure of its culture-formative side, according to God’s mandate to have dominion over the creation, under His providential guidance, for His glory, to the liberation and elevation of human life.”⁹ But Van Riessen’s two points here rest on rather different foundations, and introduce a note of what might be termed epistemological dissonance. On the one hand, the definition of modern technology as a distinctly new degree of instrumentality based on function analysis rests on his own careful interpretation, both conceptual and phenomenological, of modern engineering practice. On the other, the claim that through technology humanity is called to “reverent service to God,” which is “the deepest meaning of technology,”¹⁰ grows out of an interpretation of biblical texts or religious possibility received largely from others. The first emerges integrally from philosophical reflection, while the second appears imported from nowhere — philosophically speaking. Moreover, Van Riessen provides no evidence that the taking of such an attitude would be either practically possible or concretely effective as a remedy for the more concrete problems he has identified. My questioning here is voiced with some hesitation, in recognition of and apologies for my limited knowledge of Van Riessen’s work. It is simply presented as one scholar’s honest quandary in the face of what appears on the surface. It is difficult not to see in the idea of turning technology into the reverent service of God an anticipation of proposals such as those now advanced in the United States by fundamentalist Christians for the simple regulation of the electronic media in terms of content compatibility with revelation, while overlooking what revelation might suggest in more subtle ways about the implications of such media itself, no matter what the content. Is it really sufficient to replace television broadcasts of sex and violence with gospel programming? The Catholic theologian Karl Rahner, for instance, once argued on the basis of an analysis of their inner characters that in principle the Mass is something that should not be televised.¹¹ Even more disturbing are those fundamentalist criticisms of environmentalism as based in a pagan worship of nature that implicitly apologize for ecological degradation insofar as it is a side effect of otherwise genuinely Christian intentions. In part the difference between Van Riessen’s analysis of technology and his religious assessment reflects a simple division of labor. Like Schuurman, his successor in the chair of Reformational Philosophy at the Technological University of Delft, Van Riessen worked within the Amsterdam school of reformational philosophy founded by D.H.T. Vollenhoven and Herman Dooyeweerd and its “nonphilosophical presuppositions expressive of the Christian faith.”¹² In this tradition, Dooyeweerd especially developed an extended analysis that distinguished four fundamentally different religious ground motives or ground principles — matter-form (Greek), creation-fall-redemption (Hebraic), nature-grace (medieval Christian), and nature-freedom (Renaissance) — and then argued for the superiority of the Hebraic creation-fall-redemption ground principle. To a significant extent Van Riessen appears implicitly to rely on the Dooyeweerdian interpretation of the creation-fall-redemption ground principle in making his assessment of technology. But rather than trying to explicate such a reliance, let me attempt instead — in what I propose as a complementary path of thinking — to approach Van Riessen’s thought about religion and technology within the framework of a comparison with other Christian approaches to this same issue. In one sense, then, the aim is to attempt to understand Van Riessen and his Christian tradition better by understanding more than Van Riessen and his Christian tradition alone. It is thus against the background of Van Riessen’s own concern for relations between religion and technology that I turn to explore a spectrum of possible Christian assessments of technology.

2. Religion and Technology within the Christian Traditions

The question of the relationship between Christianity and technology in general is not one that has been broadly considered as such. It has rather received mostly sociological, historical, or sectarian theological attention, often in terms of particular dimensions of this relationship: industrialization, nuclear weapons, environmental pollution, computers and information technology, and more.¹³ It nevertheless sounds suspiciously like a number of other questions that have received somewhat more extended attention: What is the relationship between Christianity and philosophy? Christianity and

science? Christianity and politics? Christianity and art? Is there such a thing as a Christian philosophy or science or politics or art?¹⁴ Such questions have largely been approached with two inadequate kinds of answers. The first is to reply that, Yes, there is a Christian art. This art is one produced by Christians with an overtly Christian subject matter. (Think of the Catholic cathedrals of the Middle Ages.) The second is to reply that, No, there is no specifically Christian art. There is only a Christian attitude toward or use of art. (Recall the Christian interpretation of Virgil and Origin's theory of "spoiling the Egyptians.") The weakness of the first answer is that it readily becomes hostage to sectarian disagreements and theological debates about the essence of the Christian revelation. Which Christianity — Orthodox, Catholic, Protestant, or Post-Protestant — is to provide the standard for Christian art? It is further challenged by the rich history of what we often call Christian art, from early Roman catacomb decorations and medieval cathedrals to Shaker furniture and "glow in the dark" Madonnas. Moreover, Christian themes often shade imperceptibly into general human themes — which is precisely what to expect, if one believes that Christianity is a true response to certain fundamental aspects of the human condition. In light of such considerations, the second answer is more common: that there is only art which is picked up and appreciated or used by Christians who see it as exhibiting Christian themes. The weakness here, however, is that it provides little in the way of boundaries. Almost any art can be interpreted from a Christian perspective. While the first answer provides a very specific answer that is unable to encompass a wealth of relevant examples, the second is able to encompass all possible examples but only at the expense of becoming vacuous. In this situation the two traditional options have been fundamentalism and relativism. The fundamentalist simply adopts a particular theory of Christian art and dogmatically defends it with whatever means are at hand. The relativist argues from the richness of possible relations between Christianity and art to the absence of any definitive relation. However, there is a third option that has become, in diverse forms, characteristic of intellectual life in an age whose perspectives have been enlarged by historical knowledge and sensibility. This option focuses on mapping out alternatives and then defending in appropriate respects their preservation. Diversities are not difficulties to be overcome so much as goods to be appreciated. The initial step is thus analysis of a matrix of alternatives in more detail and in ways that disclose their interactions. In general one may describe this as the structuralist option, although care must be taken not to let any particular structuralist project in psychology, linguistics, anthropology, or mathematics determine the meaning here. Perhaps a better term for this approach would be typologism. The basic stance, in the face of some multiplicity that appears in conflict with a unity, is to attempt to sort the elements of the multiplicity into various kinds or types in order to better negotiate difference, sameness, and relationship. Perhaps Aristotle's distinction of the categories of being provides a model from the ancient or premodern tradition. In the mid-20th century the philosophical semantics of the Aristotelian interpreter Richard McKeon, whose work period overlapped with that of Dooyeweerd, provides a more contemporary model. Again, the essence of this third approach to any problem of a seemingly intractable conflict of alternatives is the rejection of any dogmatic assertion of unity or caving in to plurality. Instead, it works toward a more nuanced description and greater clarification of the multiplicity itself. The effort is to avoid any precipitous conclusions one way or the other, in hopes that conclusions will instead emerge from a deeper engagement with the particulars. In the case of any conflict of views within or associated with Christianity, then — especially given a need to negotiate arguments and rivalries thrown up by the course of Christian history — there have emerged efforts to sort these arguments or attitudes into types. With regard to religion and technology, there are at least three existing typologies that invite attention. These are typologies developed in the early 20th century by Ernst Troeltsch, in the mid-20th century by H. Richard Niebuhr, and in the late-20th century by Ian Barbour.

2.1 Ernst Troeltsch and the Typology of Christian Social Teachings

Among the first to undertake a systematic typological analysis of Christian views that have bearing on technology was the German Protestant theologian Ernst Troeltsch (1865-1923). Seeking to address what he saw in the late 19th and early 20th centuries as a breakdown between religion and the social order, Troeltsch's *The Social Teaching of the Christian Churches* explored the sociological history of Christianity in search of resources for recovery. In the sociological history Troeltsch identified three basic types of relationship clustered around the phenomena of church, sect, and mysticism. The church-type relationship aspires to a unification between Christian revelation and the secular social order; it downplays subjective holiness in the name of objective redemption. The sect-type relationship takes a group of believers out of any pre-existing social order in an effort to create an alternative and truly Christian order. The mysticism-type relationship simply takes the separation further into a strictly personal realm of inward religious experience and ignores the social order altogether. In place of the

social order one substitutes technology it is easy to imagine three basic Christian stances, although the results may seem a little contrived. The church stance would take technology as a phenomenon with which Christianity should relate. The sect stance would attempt to design, as it were, an alternative technology. The mystical stance would reject or withdraw from technology in order to assert the primacy of subjectivity. For Troeltsch the historical inevitabilities of sect and mysticism pointed toward a continuing need to struggle for ways to integrate religion and the social order, or in our case, religion and technology. In his words, There is ... no absolute transformation of material human nature; all that does exist is a constant wrestling with the problems which they raise. Thus the Christian ethic will also only be an adjustment to the world-situation, and it will only desire to achieve that which is practically possible.¹⁵ Critics have pointed out, however, the circular character of Troeltsch's argument. The problem as Troeltsch defines it is a breakdown of the church-type relationship, so it is not surprising that he discovered a persistent need to defend and recreate this relationship.

2.2 H. Richard Niebuhr and the Typology of Christian Cultures

Prescinding from Troeltsch's problem definition but building on his work, the American Protestant theologian H. Richard Niebuhr (1894-1962) returned half a century later to what he termed the "many-sided debate about the relations of Christianity and civilization"¹⁶ in search of a broader assessment of the "typical Christian answers to the problem of Christ and culture" that would contribute to "the mutual understanding of variant and often conflicting Christian groups."¹⁷ For Niebuhr the problem situation is not a breakdown between religion and the social order so much as one within Christianity between different theologies. In what is thus fundamentally a theological instead of sociological typology, Niebuhr distinguishes five basic relationships between Christ and culture, with culture conceived broadly to cover art, science, politics, and economics: (1) Christ against culture; (2) Christ of culture; (3) Christ above culture; (4) Christ and culture in paradox; and (5) Christ as transformer of culture. With less artificiality than Troeltsch's typological distinctions, Niebuhr's lend themselves to adaptive parsing of alternative Christian-technology relationships. Certainly given that 21st century culture in all its dimensions — from art and science to economics and politics — is now widely recognized to be highly influenced by technology, one can expect the alternative formulations at issue to be reproduced in Christian attitudes toward scientific technology. Consider, then, each adaptation in turn.

2.2.1 Christianity Against Technology

The first type is built on an argument that Christ and culture are fundamentally opposed. This argument is classically illustrated by Christian criticisms of the "world," with "world" taking on a variety of historical forms, from Greco-Roman and 19th century bourgeois culture to modern industrial technology — as illustrated by the teachings of the First Letter of John, Tertullian, Søren Kierkegaard, and Leo Tolstoy. It also exhibits close affinities with the Christian mystical tradition. Consider, for example, Meister Eckhart's argument for detachment and his disciple Angelus Silesius's saying that "the rose is without why." The mystical tradition in the life and work of some of its contemporary representatives in fact manifests some rather strong criticisms of modern technology. The Cistercian monk Thomas Merton provides one example in his meditation on "Rain and the Rhinoceros," in which he rejected the rhinoceros-like idea that everything must have some use or purpose. "The universal and modern man is the man ... who cannot understand that a living thing might perhaps be without usefulness; nor does he understand that, at bottom, it is the useful that may be a useless ... burden," wrote Merton, quoting a complaint by Eugene Ionesco on the New York production of his play, *Rhinoceros*, as a farce.¹⁸ In contrast Merton appealed to the "gratuity" and "meaninglessness" of the rain, "because it reminds me again and again that the whole world runs by rhythms I have not yet learned to recognize, rhythms that are not those of the engineer."¹⁹ And to those who would impose utility or purpose to his own monastic vocation, by viewing the monastery as power-house or prayer or some other absurdity, Merton asks, Can't I just be in the woods without any special reason? Just being in the woods, at night, in the cabin, is something too excellent to be justified or explained! It just is.²⁰

2.2.2 Christianity of Technology

The opposite type of relationship argues the essential unity of Christian practice and modern technology, thus allying itself with a long tradition of culture-Christianity. Attempts to identify Christianity and some prevailing culture extend from Constantine to the Enlightenment interpretations

of John Locke (*The Reasonableness of Christianity*, 1695) and Friedrich Schleiermacher (*Lectures on Religion to Its Cultural Despisers*, 1799). Schleiermacher, for instance, was, in Niebuhr's words, "determined to be both a Christo-centric theologian and a modern man, participating fully in the work of culture."²¹ This led him, when defending Christianity against its cultured intellectual critics, to interpret the Christian religion in terms of its contributions to culture, and culture in terms of its compatibility with Christianity. Another variation on this theme of an essential harmony of Christianity with culture, in which Enlightenment criticism purifies Christianity of its magical and mythological contaminations can be found in Thomas Jefferson. On the Christian side, there is also the demythologization program in biblical hermeneutics that would purify belief of its superstitious contaminations, and the theology of "religion come of age" in which Christians no longer need to appeal to a God of the gaps. Intellectual efforts to synthesize scientific cosmology and faith are paralleled by those that would blend Christian evangelism into the technologies of medicine, television, and computers — not to mention space exploration. Ironically, both Christian apologists and critics of technology have argued for intimate historical and sociological associations between the demands of Christianity and those of technology, interpreting each in terms of the other. In part this is attributable to the fact that technology arose and has thrived within a European or Western context. Witness the extended controversies associated with sociologist Max Weber's *Die Protestantische Ethik und der "Geist" des Kapitalismus* (1904-1905) and historian Lynn White Jr.'s "The Historical Roots of Our Ecologic Crisis" (1967). David Noble's *The Religion of Technology* (1997) is another example of a scholar emphasizing this position at the expense of all others — and with little sensitivity to the unequal theological soundness of many contributions to the debate. Interlude Niebuhr makes an observation on the opposition versus unification debate that throws a special light on the Christ-against-technology versus the Christ-of-technology versions of this debate. Deeply associated with any Christ-against-culture theology is, he suggests, an unstated thesis that the human condition is fundamentally characterized by a deep conflict of the truly human with (a false or erroneous) culture. This tended to be a default position in the early history of Christianity insofar as Christians found themselves trying to live in accord with a revelation that was not accepted by either the local Jewish or the dominant Greco-Roman cultures. Under such circumstances, Christianity readily sides with what it sees as the truly human and seeks to separate itself from the dominant culture if not culture in general.²² Insofar as technology is manifest as a kind of independent culture, as it often is in social scientific studies, it too will be criticized by Christianity; and insofar as Christianity opposes technology it will tend to interpret technology with the social scientists as a kind of culture. Just as deeply associated with all Christ-of-culture theologies there lies, Niebuhr further argues, an often unstated thesis that the human condition is fundamentally characterized by a conflict of humans (and their culture) with nature. In this situation, Christianity readily sides with the human. Since technology is in some readily understandable sense a conquest of nature, it is thus to be expected that any Christian theology that takes the fundamental hiatus of the human condition as one between the human and the natural will also tend to identify Christ with technology. Thus at some level the argument between Christian opposition to technology and Christian promotion of technology is one about the fundamental character of the human condition (whether its dynamics are interpreted as manifesting tensions between humans and culture or between humans and nature) and the best definition of technology (as culture or as tool). One way to appreciate the uniqueness of Van Riessen is to note that he is at once critical of technology as culture (alienation) while defining technology as tool (instrumentarium). These first two positions further exhibit obvious similarities with Troeltsch's church and mysticism stances, respectively. The next three of Niebuhr's alternative theologies are variations of an intermediate position. This intermediate position takes the fundamental conflict in reality as being neither between Christians and culture nor between humans and nature, but between human beings and God. Contra the Christ-against-culture position, the three intermediate views argue that human beings are invariably and necessarily part of some culture. Contra the Christ-of-culture position, they argue that culture is based on and perfects nature. Culture, and hence technology, is sometimes on one side, sometimes on the other of the human/God hiatus. The line of division has to be drawn not to one side or the other of culture, but through it.

2.2.3 Christianity Above Technology

According to Niebuhr's analysis of the first of these three middle positions, that of Christ above culture, what distinguishes it is a recognition of true culture as a positive achievement in itself, but one that is at the same time preparatory for a supernatural synthesis with Christ. Christ and culture are really distinct at the natural level but can be synthesized at a supernatural level. Historical culture is a preparation for transhistorical union with God. Grace builds not only on nature, but on the perfection of

nature in culture. This is a position represented classically by Clement of Alexandria and St. Thomas Aquinas. The integral humanism of the neothomist Jacques Maritain likewise presents with a calm confidence that sometimes borders on self-righteousness the notion that the grace of Christian faith ultimately encompasses and sanctifies technology beyond any problems it may create. One of the fullest articulations of this position can be found in the thought of the Canadian Jesuit theologian Bernard Lonergan, who gives transcendental Thomism a technology-related twist. In accordance with the Kantian revolution in philosophy, Lonergan shifts the focus from transcendence to immanence and analyzes the ways in which the conundrums of technological practice require a supernatural synthesis without, however, affirming the positive existence of the transcendent or supernatural. In itself technology contains elements of both progress and decline. A technical solution to some human problem applies and proliferates practical insight. In response to the need for transportation comes the invention of automobiles. The widespread use of cars creates urban congestion, which gives rise to proposals for large-scale transportation networks. The optimistic conclusion is a vision of increasingly powerful technological fixes to human problems. But parallel with progressive insight and successful action comes increasing oversight and technological failure. The unintended consequences of technical solutions often outpace human technological Christianity. Automobiles give rise to pollution; transportation networks break down under slighted maintenance, labor demands, and shifting patterns of economic development. Human intelligence, especially in its practical forms, is limited by immediate utilitarian prejudice as much as it is oriented toward the truth. Humans are always overlooking some aspect of things; they fail to take in the whole picture. Because of this coordination of progress and decline, the realm of humanly distressing disorder gradually shifts from the natural to the technological milieu. Today it is nuclear weapons and anthropogenic climate change that threaten human life more than the plagues of nature or bad weather. Such technological disorder can only be overcome by faith, in which God communicates to human beings a higher vision and thus collaborates with them in transcending their technological limitations.

2.2.4 Christianity and Technology in Paradox

A fourth typically Christian attitude toward technology is constituted by what Niebuhr calls a dualist approach, in which the realms of technology and faith remain unalterably separate — not opposed, just separate or distinct. Take any secular analysis of the structure of technology, from Ortega and Heidegger to Ellul and Van Riessen. Then in the face of this analysis of scientific technology as a description of the world in the new or modern sense of this term, it is appropriate to ask how the person of faith should respond to such a phenomenon. Following St. Paul and Martin Luther, it is possible to argue that the believer must at once acknowledge the value of this world and keep it distinct from faith. The real problem is the contamination of one by the other. The tensions of this coexistence are paradoxical. Unlike a Christ-above-technology theology, the acknowledgment of technological achievement is done almost exclusively in negative terms. Technology is more a hedge against disaster than a positive achievement. It wars against plague and famine, more than it constructs civilization. In itself it can be said to be representative more of the wrath of God than of his mercy. Yet believers must accept the fact that for the present they are inextricably involved with this world and must participate in it on its own terms. The relation between Christ and technology may be described in terms adapted from Luther's argument for the simultaneous practice of love (see *On Christian Liberty*, 1520) and vengeance (see *Against the Robbing and Murdering Hordes of Peasants*, 1525). To quote Luther's defense of his dual counsel: There are two kingdoms, one the kingdom of God, the other the kingdom of the world. ... God's kingdom is a kingdom of grace and mercy ... but the kingdom of the world is a kingdom of wrath and severity. ... Now he who would confuse these two ... would put wrath into God's kingdom and mercy into the world's kingdom, and that is the same as putting the devil in heaven and God in hell.²³ A similar paradoxical insertion and separation is reiterated by Simone Weil in her contrast between gravity and light or grace. The classic Protestant emphasis on a separation between church and state may be extended by Christian dualists into a call for the proper separation between the scientific-technical project and the project of faith. Technology, like politics, is a problem only when it infects faith or is infected by it. Nature and grace are both served by a proper recognition of their dual functions. Illustrative of this theology in relation to technology, it may be suggested is the thought of Ellul, the French sociologist and theologian who found it largely impossible to integrate the two perspectives in his studies of technology. The Canadian Christian philosopher George Grant, drawing on the political philosophy of Leo Strauss, presents another version of this approach.

2.2.5 Christianity as Transformer of Technology

But does such a separation not call into questions God's love for the world and the power of grace? Contra Luther, is it not possible to take what Niebuhr calls a conversionist position? Grace is able to enter into and transform nature, or that already once-transformed nature called culture, or in the present instance scientific technology — without necessarily being contaminated by it. This is an idea expressed in different forms by the Gospel of John, St. Augustine, John Wesley, and Frederick Denison Maurice insofar as each presents Christ as able to alter or change the world. In the case of St. John and Augustine the world in question is classical pagan culture; for Wesley and Maurice it is industrialization. Indeed, the point at issue here is one of John Calvin's arguments with Luther, and the reason why Calvin was willing to establish a church city-state at Geneva. This Christianity-as-transformer-of-technology stance is supported by arguments to the effect that the essential problem with scientific technology is the motive behind it. Motives (and ideas) are more amenable to Christian conversion than practices and institutions, which often tend to exhibit long-term resistance to transformative change, even when they appear to be short term docile participants. Beside, according to Van Riessen, a mandate for cultural work was given to humans by God from the very beginning. Although corrupted by the sinful pursuit of power, it can be redeemed, even in its technological manifestation, through Christ. The conversionist, as Niebuhr points out, tends to understand history, at least since Christ, as an on-going story of God's mighty deeds and the human response. The conversionist "lives somewhat less 'between the times' of Christ's first and second coming and somewhat more in the divine 'now' than do his fellow Christians."²⁴ With Van Riessen, too, now appears as the time for humans to respond in faith to the challenge of technology, to turn from bad to good motives, and thus transform their technological milieu. Thus, as Niebuhr says with reference to St. Augustine, technology may become both the beneficiary of the conversion of human love and the instrument "of that new love of God that rejoices in His whole creation and serves all His creatures."²⁵ This fifth position, which seems well illustrated by Van Riessen, highlights some of the theological doctrines on which all three intermediate positions of synthesis, dualism, and conversion are founded. Contra the Christ-of-technology position, the three centerist alternatives stress the real distinction between Christ and at least the present form of technology. Yet granted that God is the original creator of the world and/or nature, Christ as God cannot be completely opposed to it. At some deep level, all creation is open to obedience to God. As a result of sin and the Fall, however, humans cannot be obedient on their own. They must rely on grace, especially as manifested in the salvation of Jesus Christ. The primacy of grace overshadows the greatness of all works, no matter how good — or bad.

2.3 Ian Barbour and the Typology of Science and Religion Interactions

Still another typological analysis that appears even more immediately relevant to the religion-technology relationship than those of either Troeltsch or Niebuhr is one developed by the Christian physicist and 1999 Templeton Prize winner Ian Barbour (1923-present). In two volumes of Gifford Lectures Barbour has developed, first, a four-fold analysis of relations between science and religion and, second, distinguished three conflicting ethical views of technology with religious correlates. According to Barbour religion and science can be approached in four ways: as phenomena in conflict, independent, open to dialogue, or even integration. Conflict can be promoted from the side of science (scientific materialism) or religion (biblical fundamentalism). Independence or autonomies of the realms of religion and science can be defended on the basis of method or language. Dialogue is cultivated by means of attention to boundary questions such as those concerning the basic presuppositions of science or religion and by analyzing methodological parallels of the two human pursuits. Finally, integration is sponsored by attempts to develop natural theologies, theologies of nature, and some kind of synthesis of religious and scientific knowledge. There are obvious overlaps between Barbour's typology and that of Niebuhr. Barbour's conflict, especially as developed from the side of biblical fundamentalism, is similar to Niebuhr's opposition. Independence, as exhibited by Stephen J. Gould's Kantian philosophy of non-overlapping magisteria (what he calls NOMA), echos both opposition and paradox. Dialogue and integration, which are Barbour's preferred stances, merge in part with the Christianity above and transformer positions — and even, to some degree Christianity of culture theology. But precisely because his typology is constituted by a kind of externalist view of the Christianity-science relationship, it lacks some of the historico-theological nuance and depth of Niebuhr's. For instance, Barbour does not seem able to appreciate that anything other than fundamentalism could find something fundamentally mistaken about modern science. With regard to religion and technology, Barbour argues that there exist three fundamental ethical views of technology as liberator, as threat, and as instrument of power. From Barbour's perspective, those who see technology as fundamentally liberating conceptualize the technology-society relation as unidirectional (technology benefiting society) and fail to acknowledge its negative social and environmental impacts.

By contrast, those who see technology as a fundamental threat fail to appreciate distinctions between particular technologies and the true benefits of many of these. It is the view of technology as ambiguous instrumental power, to be understood contextually — that is, as socially constructed — that Barbour argues is the more adequate assessment. This third view of technology, which is Barbour's own position, has obvious affinities with that of Van Riessen. Indeed, in this regard Barbour makes specific and favorable reference to Egbert Schuurman, who has continued and extended Van Riessen's program of reflection and criticism. Barbour fundamentally approves of Schuurman's call for the transformation and redemption of technology so that it becomes "an instrument of God's love serving all creatures."²⁶ At the same time, Barbour too voices a concern that the Reformational stance provides "few examples of what such a [redeemed] technology would be like or how we can work to promote it."²⁷ Thus it is that Barbour himself develops the central part of his book *Ethics in an Age of Technology* spelling out, with regard to the particular technologies of agriculture, energy, and computers, a suite of policy changes that might grow out of political action and protest to transform the future. But in so doing, it is interesting to note, Barbour necessarily references and draws on the kinds of criticism that are based in the view of technology as threat more than on the view of technology as liberator. Moreover, I would argue that given the level of liberation that has been achieved with technology, and the prospects for the future development of technology, technology is indeed more truly threat than instrument. In this it is Hans Jonas' "heuristics of fear" and the precautionary principle that justify a preferential option for a more critical attitude toward technology than seems possible in the world in which we presently live. Transition

On another occasion, using a Niebuhr-like typology, I developed a related argument.²⁸ Niebuhr deploys his typology in order, in a typically structuralist manner, to defend a preservation of the types. But given the contemporary historical dominance of technology, it is difficult not to see all other types than those of conflict and paradox as easily if not inherently co-opted by the technological spirit. In a socio-historical context in which all presumptions are for the rationality of science and further technological liberation, and the economic momentum by default is toward expansions of technology limited only by risks to human safety, it is difficult to see how technology could ever be perfected by the grace of Christianity or how Christian transformation or conversion could ever become an active Christian project short of going through a dark night of conflict and opposition. There is no cheap grace. Additionally, as already suggested, there is something deeply problematic about existing efforts to baptize or give Christian meaning to contemporary technology. Using the example of discussions in the United States, both liberal Christian criticisms of nuclear weapons and environmental pollution and conservative Christian criticism of abortion and human embryonic stem cell research seem able to be co-opted by and become means for advancing the modern technological project. On the liberal side, interest and energy is simply redirected toward technological fixes for nuclear weapons control and alternative technologies for environmental benefit that lead to advance space satellite monitoring green chemistry, and nanoscale engineering. On the conservative side, anti-abortionists actually want to move the technologies of neonatal care toward the creation of artificial wombs and explore adult stem cell manipulation as an alternative to embryonic stem cell research. Together, liberalism and conservatism would seem poised only to extend artifice — to make technology at once more intense and comprehensive. Is there no escape? The persistence of the liberal-conservative divide as a theoretical problem along with the paradoxes of practice suggest the desirability of looking outside Christian traditions — if only, once again, to try to understand more fully the distinctive character of the spectrum of Christian stances through an appreciation of the still larger spectrum of religious assessments of technology. It is with this possibility in mind that I turn, finally, to consider religion and technology from a Buddhist perspective — which should be seen as a merely a first step in an effort to initiate a dialogue between Christian religious reflections on and responses to technology and those of any number of other religious traditions.

3. Buddhist Perspectives on Technology

The turn from Christianity to Buddhism must be qualified in two important respects. First, as with many of us raised in the ambience of European history and culture, my life has taken shape within what is, however inappropriately denominated as such, a Christian lifeworld, one in which Buddhism is at best a foreign presence. Attenuated though it may be, Christianity is more present to me than Buddhism. My interpretations concerning Buddhism must therefore be distinctly provisional in character. If anything, I am even more uneasy about exploring Buddhism than in venturing to question Van Riessen. Not knowing Buddhist culture from within, in the ways I know Christian culture, there is a strong tendency to romanticize Buddhism. The far easily appears more pure than then near. Second, the arguments here need not be considered as essentially opposed to Christianity. For the points at immediate issue it is certainly not necessary to present them as such. Many have argued for aspects

of Buddhism within Christianity, and although I find deep differentiations between the two, it would be inappropriate to disagree too strongly with better scholars. After all, from the 1000s to the mid-1800s Buddha himself was — under the name of Josaphat (a corruption of “Bodhisattva”) in the “Barlaam and Josaphat” story attributed to St. John of Damascus (early 8th century) — a recognized saint in both the Orthodox and Catholic churches, with elements derivative of his teaching thus able perhaps to influence the Christian tradition. Nevertheless, it is certainly the case that Buddhism matured in a world in which what we know as scientific technology played no significant role in culture. Nor did Buddhism become at some point an original sponsor of or vehicle for the historical development or transmission of scientific technology. As previously indicated, it is as if to reiterate the deep historical associations between Christianity and scientific technology that some of the strongest versions of the Christianity of technology position have been constructed. Given its positioning outside this historical context, on what basis, then, might we speculate that Buddhism has something to teach in regard to technology?

3.1 Suggestions of Buddhist Relevance

One suggestive response comes from a 6th century Indian legend concerning the Buddhist King Asoka (304-232BCE).²⁹ In the city of Pataliputra, the capital of the Kingdom of Maurya, before the time of Asoka, a young man heard of the existence of great spirit-bearing engines in the Kingdom of Roma to the West. “We ought to construct as many of these machines in Pataliputra as there are people,” he argued, because such machines could serve as instruments of protection while performing all sorts of work in business, agriculture, and financial accounting. By devious means the secret of the spirit-bearing engines was secured from Roma, only to be utilized mainly to construct robot guards for protecting the relics of the Buddha. So effectively were these guards that worshipers were no longer able to approach the relics. One of King Asoka’s achievements was to disarm these golem-like protectors and thereby free the relics and restore Buddhism to the center of culture in Pataliputra. It is perhaps a remarkable insight achieved only by the perspective of distance that already by the time of St. Augustine a kingdom of Roma to the West was exhibiting affinities for technological prowess. Perhaps precisely because of its distance, Buddhism can offer a perspective on technology that would be more difficult to achieve within the Christian ambience. A second response can be taken from the relation between Buddhism and violence. Although it may rightly be maintained that Christianity does not in its essence promote violence — indeed, that when truly understood Christianity actually promotes peace — the historical record is that Christendom has not simply been associated with but actually promoted violence and warfare. Historically it is incontestable that violence has been perpetrated and wars fought in the name of Christianity, that Christianity has in fact made many wars more violent, and that it is ostensibly Christian peoples who have for the last thousand years been leaders in the development of warfare technologies, including weapons of mass destruction. Examples range from the anti-Muslim Crusades (1000s to 1200s), the Albigensian Crusade (early 1200s), and the wars of colonialism (from the 1500s to the 1900s) to the Thirty Years War (1618-1648, terminating with the Peace of Westphalia) and even the wars in Ireland between the Catholics and Protestants from the early 1900s to the present. Indeed, from the perspective of religious history it may reasonably be argued that all three Abrahamic religions — Judaism, Christianity, and Islam — give greater glory to violence and warfare than any other of the world religious traditions. Certainly it is true that Buddhism, on the basis of the principle of Ahimsa or active non-harming, has a unique record for non-violence and the promotion of peace. This extends from the conversion of Asoka to the refusal to wage even wars of resistance when invading armies from central Asia destroyed Buddhist monasteries in Afghanistan in the 5th century CE, when Muslims began a century-long series of violent jihads against monasteries in northern India in the late 10th century, and when the Chinese Communists attacked Tibet in the 1950s. Indeed, today the Dali Lama still counsels against violence and seeks to promote peace with the invading Chinese. (In the form of Japanese zen, however, Buddhism has been criticized for its association with Samurai traditions of militarism.) Thus insofar as modern technology may also be associated with a kind of violence or warfare against nature, Buddhism may contain special critical resources. It is therefore appropriate to consider, to begin, how such resources may have been interpreted in the European tradition.

3.2 The European Appropriation of Buddhism

From its earliest philosophical appearance in the world-affirming European tradition, Buddhism has been described in ways that emphasized its non-violent, not to say passive and world-denying, features. Two of the initial engagements by the European philosophical tradition took place in the

works of G.W.F. Hegel (1770-1831) and Arthur Schopenhauer (1788-1860). In the second of his late *Vorlesungen über die Philosophie der Religion* (1824), Hegel, drawing on a very limited knowledge of the tradition itself, interpreted Buddhism as the religion of Being-within-itself, that is, of mere thought. But already a few years earlier, his younger contemporary Schopenhauer in *Die Welt als Wille und Vorstellung* (1818) had identified the Buddha with such figures as St. Francis of Assisi and Meister Eckhart, and thus presented Buddhism and Buddhist practices as among the most pure forms of ascetic mysticism, manifesting a dramatic turning away from the will-to-live. This latter interpretation is the basis for Friedrich Nietzsche's criticism in *Jenseits von Gut und Böse* (1886) and one that became codified in L. De la Vallée Poussin's article on "Nihilism (Buddhist)" in James Hastings' *Encyclopedia of Religion and Ethics* (1917). Contemporary with Hegel's and Schopenhauer's interpretations of Buddhism, however, more scholarly appreciations began to emerge in the work of historians of religion. For instance, the French philologist Eugène Burnout, in his *Introduction à l'histoire du Bouddhisme indien* (1844), was among the first to identify in the manifold practices of the "Dharma" or "Buddha's way" throughout Asia — from the Theravada or teaching of the elders in Sri Lanka, Myanmar, and Thailand; to the Mahayana or greater way in China; and the Vajrayana or diamond way in Tibet — a common core that could be called Buddhism. Yet as with Hegel and Schopenhauer, the founders of the scholarly field known as the history of religion continued to see in Buddhism a fundamental opposition to European ways of thinking and acting, including especially technological thinking and acting — although with increasing nuance stimulated to some extent no doubt by an emerging cultural criticism of modern technology itself. One of the founders of the alternative technology movement of the 1970s, for instance, explicitly appealed to the Buddhist teaching concerning "right livelihood" as the basis for an alternative to the European economics of scarcity that drives so much technological innovation.³⁰

3.3 The Buddhist Teaching

To begin to assess the validity of such interpretations, it is appropriate to turn to what is generally agreed to be the core teaching of the Buddha as summarized in the Four Noble Truths. The four truths or teachings are those of suffering (in Pali *dukkha*), arising (*samudaya*), cessation (*nirodha*), and the path (*marga*). The first truth is that human experience is fundamentally or at its base one of suffering. Suffering should be understood here as something more like frustration or disorder, of which physical and emotional suffering are simply the most intense manifestations. In fact, *dukkha* is commonly distinguished into three types: the *dukkha* of pain or physical pain, illness, old age, and death; the *dukkha* of change or suffering caused by unrealized expectations or the failure of pleasures to last; and the *dukkha* of becoming or the suffering that is necessarily associated with the arising of conditioned beings. The second truth is that suffering arises or is caused by craving (*tanha*) or desire and the failure of this desire to be able to be permanently satisfied. *Dukkha* in all its forms is grounded in human beliefs about the ways things should be either now or in the future and their attachments to such beliefs even when things are different. *Tanha* itself is traditionally distinguished into cravings for sensual pleasures of many types (sight, sound, smell, taste, touch), cravings for continued existence or survival (in the forms of wealth, power, fame, and more), and cravings for non-existence or annihilation (self-destructive behaviors of all sorts including suicide being the most extreme form but including as well desires to avoid or not facing up to things). In the first category of craving Buddhism would even include ideas and knowledge among for whom knowing is a pleasure. The third truth is that the cessation of craving or *tanha* will lead to a cessation of suffering. By giving up beliefs about the ways things should be either now or in the future — by detaching oneself from demands and expectations — one will cease to create *dukkha*. The fourth truth is that there is a path that leads to the cessation of craving and thus suffering. As has often been noted, Buddhism at its core is constituted by a diagnosis of illness in and a proposed therapy for the human condition. The path or Noble Eight-fold Path, in its turn, calls for disciples to practice the right or correct understanding, resolve, speech, action, livelihood, effort, mindfulness, and meditation. The first two of these eight practices are summarized as wisdom or insight, the next three as morality, and the last three under the same term as the ultimate practice itself, meditation — meditation which in turn leads to insight. The path thus constitutes not so much a ladder or ascent as a set of mutually reinforcing practices. Note, too, the emphasis here on practice. In place of the primacy of a historical event (such as the death and resurrection of Jesus of Nazareth) and faith, Buddhism rests on insight and practice — including practices that lead to insight. This is the core of the teaching or Dharma that the Buddha initiated with what is called "the first turning of the wheel of the Dharma" in his initial, post-enlightenment Deer Park sermon to monks, the substance of which is poetically reiterated in the early collection of teachings known as the *Dhammapada*. Since it is possible to consider here only in the most provisional way how

Buddhism might comport with technology, perhaps it would be permissible to focus attention on the eighth step in the Noble Eight-fold Path. This meditation is widely presented by Buddhists themselves as central to both their thought and their practice. In the Theravada tradition, Buddhist meditation is known as vipassana or insight meditation. From the perspective of Buddhist practitioners this type of meditation is not, like the forms of yogic meditation popular in the Buddha's own time, oriented toward the experience of some true or deep inner (divine) self beyond the ego. Nor is it designed to yield what early European interpretations saw as nihilistic withdraw from the world. Nor, again, is it equivalent to what some romantic proponents have presented as a kind of ecstatic experience of the world. Instead, according to the Buddha there is no true or deep self, and the practice of vipassana is simply the dispassionate, immediate, and clear observation of body, feelings, mind, and ideas — any of which can be a focus for insight mediation — that enables a meditator to experience or realize such a truth. In an explication of the Buddha's teaching on "The Foundations of Mindfulness" (Satipatthana-sutta), the Sri Lankan monk and scholar Walpola Rahula has noted, for instance, how vipassana can be practiced not only in breathing meditation, simply focusing attention on the in and out movements of the breath, but also on daily activities, feelings or sensations, and mental life. What is important is "simply observing, watching, examining," not as "a judge, but a scientist."³¹ In an extension that evokes comparisons with the Western monastic practice of *lectio divina* or spiritual reading, Rahula also writes: "To read [the right type of] book, and to think deeply about the subjects discussed in it, is a form of mediation."³² As one European commentator and practitioner has succinctly summarized the significance of such meditation practices: this "wakeful and energetic introspection constituted the Buddha's unique contribution to meditative technology."³³ By venturing to describe vipassana as a meditative technology or technique, the author here is at once appealing to and gently criticizing the European commitment to physical technology. Although one kind of technology arose in Europe and the Christian ambience, another arose in Asia within the Buddhist ambience. In some talks he gave on a tour of North America in 1981, for example, Tenzin Gyatso, the 14th Dali Lama (born Bstan-'dzin Rgya-mtsho), made the following remarks: Through highly developed scientific technology we can solve any material human problem, such as poverty, disease, etc., but at the same time, due to this same technology, we create more fear and more desire. For example, today we fear a sudden explosion of atoms in the world.³⁴ And again: "The most difficult problems in the world, which, in large part, emanate from the most developed societies, stem from an overemphasis on the rewards of material progress, one that has placed in jeopardy the very aspects of our common heritage that, in the past, inspired human beings to be honest, altruistic, and spiritually mature."³⁵ Robert Thurman, the first North American to be ordained a monk by the Dali Lama is even more explicit. In an effort to identify what is unique about Buddhist practice, Thurman contrasts what he calls the "outer modernity" of Europe and North America with the "inner modernity" of Tibet. "Unlike in the modern West, where efforts are directed outwardly, toward material progress, in Tibet, energies were directed inwardly, toward progress in the development of an inner universe, toward spiritual progress."³⁶ While "the inner modernity of Tibet's enlightenment-dedicated civilization flourished" the West conquered the world with modern technology. "But the technologies and institutions of conquest and unification prove extremely ill-suited to the maintenance of harmony and creativity within one global society."³⁷

3.4 Interpretation

What might such statements from within the Buddhist tradition imply for the present effort to place technology in religious-philosophical perspective? Allow me to venture three interpretative suggestions. First, the Buddhist analysis of human action at once agrees with and opposes the understanding of action that begins with Plato and Aristotle and is picked up and utilized by the Jewish, Christian, and Islamic traditions. According to Aristotle, all action aims at some good, the most general name for this good is *eudaimonia*, often translated as "happiness" although better rendered as "well being" (Nicomachean Ethics I, 1). But the good of well being can take on at least three fundamentally different contents: physical pleasure, honor, and knowledge (Nicomachean Ethics I, 5). Independent of Aristotle's criticism of the relative validity of the ways of life associated with these three forms of the good, in each case happiness is attained when a good is attained — that is, when any one of these ends is realized. The possibility that the pursuit of goods themselves is a practice to be fundamentally reconsidered is at most a hidden option in the European traditions of reflection on the human condition and practices of ascetic, spiritual discipline. By contrast, the need to re-examine the means-ends relationship in human action is among the most basic teachings of Buddhism. Suffering arises from the active pursuit of goods, and the two-fold fact that goods are seldom realized and always ultimately perishable. While these facts are recognized within the European tradition, the response has been to develop means that make the attainment of ends more effective (that is,

technology) and to try to substitute imperishable for perishable goods. The Christian goods substitution replaces worldly with other-worldly goods. The technological substitution seeks to realize this worldly goods more effectively and, as it were, to harden such goods through engineering design. Plastics are more long-lasting than wood. The Buddhist tactic is to question if not torpedo the basic desire for goods from which much technological — and scientific — activity arises. The techniques of such questioning constitute its inner technology. Second, although there certainly exist distinctions among different Buddhist forms of and attitudes toward this technology — giving rise to a possible typology of Buddhist attitudes toward culture that may to some extent mirror those identified by Niebuhr in the Christian tradition — there would seem to be a priority given to opposition to a degree not to be found in the European world. On the one hand, it might be argued that the Theravada tradition manifests a Buddhism against culture stance, Mahayana proposes a Buddhist transformation of culture, and Vajrayana exhibits Buddhism and culture in paradox. On the other, given the status of the Theravada tradition, it could be argued perhaps even more strongly that in the Buddhist tradition it is as if all the diversity is to be found within the Niebuhr-like stance of Christianity against technology. Even more radically and comprehensively than Tertullian's question concerning the relations between Jerusalem and Athens, the Buddha asks "What has the Pataliputra to do with Roma?" Third, again in contrast to the Christian traditions Buddhism proposes specific, practical ways to ask such a question. The most general presentation of this asking is by means of vipassana or insight meditation. Simply sit calmly and watch or observe what is going on around you and especially in your own body and mind. Watch the breath, desires, and ideas as they arise and fall. The claim, remarkable as it is, is that this very watching and observing can become a good (similar, perhaps to Aristotle's knowledge) and that it can undermine the power of these desires and ideas to control and direct our behavior. In place of the Freudian "talking cure" Buddhism proposes the "watching" or "observing cure." "Could you not watch with me one hour?" asked Jesus to his disciples in the Garden of Gethsemani (Matthew 26:40).

Conclusion

As indicated at the beginning, my goal has been to consider technology from a religious-philosophical perspective that includes a dialogue among traditions. The dialogue has moved from a review of one particular analysis of the religion-technology relationship, that of Van Riessen's Reformational Christian criticism, through a review of such relationships from multiple Christian traditions, toward an initial presentation of Buddhism as a fundamental alternative to the Christian tradition — to encourage a more expansive and deeper dialogue within Christian religious reflections on technology, one that might also engage those of other religious traditions. Such an enlarged dialogue is surely appropriate for an age of increasing historical knowledge and interactive globalization. The fact that this beginning has remained on the surface cannot be denied. My only excuse is that the surface is always a necessary beginning. To repeat what is, even insofar as it may be true, certainly no more than superficial: Van Riessen seeks to place his philosophical analysis of the distinctive structural features technology under a Reformational judgment that at least on occasion may appear as an intention imported from beyond the space of reflective rationality and weak of purchase within the new dimensions of control, independence, reflection, and intellectualization, that he has otherwise so carefully identified. An effort to localize his particular stance within the larger Christian possibility space suggests the existence of complementary stands in ways different from but perhaps related to the structuralist theological formulations of some of the most sophisticated recent apologists for Reformational thought. Might it be possible, one cannot help but wonder, to bring a deeper suite of religious possibilities into the presence of technology in a manner that would encourage a reconsideration of the intentional options which have dominated play for a thousand years of European culture? From the surface of this bold question the argument has emerged that there exists within religions more broadly conceived a fundamental challenge to scientific technology which has remained circumscribed within the Christian tradition and without effective implementation, without what in Hinduism would be called a yoga. Buddhism, with the practice of vipassana meditation, which can take form even in scholarly reflection, is proposed as a practical implementation for reforming our motivation or intentional stance in regard to technology — a reformation that may well not, however, leave our technology itself in tact.

Addendum

In the discussion period after the lecture one of the first comments went something like this: Buddhism seems passive. There does not seem to be any active sense of exploration or desire to change things. Where is the sense of adventure, initiative, or drive to do things in Buddhism? At the time I simply

complemented my interlocutor on correctly identifying a fundamental difference between Buddhism and Christianity. Buddhism does lack a certain kind of determination to do things that seems fundamental to Christianity. I also made some small counter comment to the effect that in a world so full of determinations to take action with regard to so many things, perhaps there is a reasonable place for some complementary criticism of activism. As an example, further reference may have been made to the “slow food” movement founded in Italy in the mid-1980s and now expanded into a “slow cities” movement. Yet the rapid growth and almost aggressive promotion of the slow movement is perhaps an ironic commentary on the very character of the European context in which it exists. The basic question or contrast has nevertheless continued to occupy my mind. It is a question that finds expression as well in what is perhaps a basic contrast between Buddhist and Christian attitudes toward suffering. According to Buddhism, suffering (*dukkha*) defines human experience and is a phenomenon to be escaped by means of a kind of personal insight that arises from following a path of practice, namely meditation. There is nothing to accept in suffering, and no good comes out of it. By contrast, according to Christianity, suffering is something to be accepted, and its acceptance — one might almost say affirmation — can lead to the greatest good. The First Letter of Peter, for instance, counsels Christians to accept their sufferings (Greek *pathema*; in other places *kakopatheia*, evil suffering) just as Christ accepted his in order to receive the reward promised by Christ, that is, eternal life (1 Peter 1:6, 2:21, and 4:13). In Buddhism, the counsel is to side step suffering through enlightenment; in Christianity, the teaching is to accept and, as it were, work through suffering through faith. When Francis Bacon at the beginning of the modern period in European history argued in favor of the conquest of nature for the relief of the human estate he certainly did so not to side step suffering so much as to work through it in a way that would achieve what he presented as a real, this-worldly good. Bacon criticized both premodern philosophy and magic on the basis of a pragmatism analogous to that found to in the Greek Scriptures: By their fruits you shall know them (Matthew 7:15-16). For Bacon, however, the fruits by which one should judge are this-worldly power not other-worldly or theological perfections. In history and culture as influenced by Buddhism this transformation from non-worldly to worldly never seems to have taken place. In fact, David Loy, an American Buddhist critic of the western intellectual tradition has argued at length that European philosophy should be read as a series of case studies confirming the truth of the doctrine of no-self. According to Buddhism, the self is an illusion continuously trying to avoid facing up to its illusory nature, about which it is nevertheless vaguely aware and anxious. Anxiety is heightened by the combination of humanism and Christianity and their attempts to defend or redeem the self. But there remains an “inescapable trace of nothingness in my ‘empty’ (because not really self-existing) sense-of-self that is experienced as a sense-of-lack” — a lack that philosophers in the European tradition have repeatedly tried by various means to avoid facing.³⁸ Today these means are primarily science and technology. Indeed, recent technoscientific aspirations to remake ourselves by means of genetic engineering reveal only more clearly the dominance of greed, ill will, and delusion over generosity, compassion, and wisdom. Attempting to escape the nothingness of self, human beings in thrall to technology vainly try to ground [themselves] by modifying the world outside [themselves]. ... Instead of trying to ground ourselves somewhere on the “outside,” we need to look “inside.” Instead of running away from this sense of emptiness at our core, we need to become more comfortable with it and more aware....³⁹ In a world seemingly addicted to scientific technology, we need to undertake a fundamental inquiry into why technology appears to have such power over us even as we claim it as an instrument of our power. Why, that is, are we so emotionally attached to doing things — so attached that criticism of action seems to deprive us of our basic humanity? Could it not be that the portrayal of existential angst in the face of nothingness so effectively rendered in the work of, for example, Samuel Beckett — and which has been such an occasion for aggravated debate among believers and non-believers alike — arises precisely because of an attachment to action that itself deserves to be undercut. *Waiting for Godot* is arguably based more on “wanting to go” than on the primary absence (of God?) that gives its name to the drama. A Buddhist interpretation of the final non-action might see it as pointing neither toward tragedy nor comedy but enlightenment: Well, shall we go? Yes, let’s go. They do not move.

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