

Reviews

Vital Dust: Life as a Cosmic Imperative. By CHRISTIAN DE DUVE. New York: Basic Books, 1995. 362 pages. \$25.00.

Christian de Duve explains his work *Vital Dust* as his attempt to look at the “big picture.” De Duve, a Nobel Prize–winning biochemist from Belgium, attempts here to stitch together the natural history of life on Earth, from its very beginnings to its possible futures. Key to the structure of his work is the division of the history of life on Earth into seven ages: chemistry, information, the protocell, the single cell, multicellular organisms, the mind, and the unknown.

The tenor of de Duve’s argument and style is clearly enunciated in the first several chapters of the book. De Duve sets forth, with a great deal of clarity and caution, his account of the origins of life on Earth. What seems to be an improbable miracle, de Duve argues, appears much less so when we realize that life did not arise on Earth “all at once” but is the result of the procession of a series of natural processes, each building upon the other and each unspectacular within the context of Earth in that time period. Thus, the physical conditions of Earth in its very early history set the stage for the emergence of RNA, which, through a further series of stages, proves to be the basis first of protocells and then the various forms of single-cell organisms.

De Duve along each step of the progression cautiously stays within the accepted mainstream (where there is one) of evolutionary science. This is particularly true in the first few chapters, which, after all, are within his specialty. The later chapters explore the gradual emergence of macroscopic life, from the earliest invertebrates up through the carnivorous land mammals, and eventually the emergence of primates and humankind.

This cautious approach is nowhere more evident than in the chapters devoted to the emergence of the human mind and its cultural products. De Duve briefly but deftly moves through the respective minefields of cognitive science, philosophy of mind, and sociobiology, citing the various points of view but nowhere committing himself to any one of them. These chapters, in particular, give a particularly unfinished flavor to the work. One wishes for a stronger guiding principle to help one navigate through the various stages of this work.

Indeed, it is only in the last section that we get anything like a strong philosophical statement. In the final chapter, de Duve contrasts the philosophies of two Frenchmen: Jacques Monod and Pierre Teilhard de Chardin. While de Duve prefers Monod’s closer adherence to mainstream science, he nevertheless agrees with Teilhard that the universe has meaning. What this meaning turns out to be, however, is not Teilhard’s Omega Point but that the occurrence of life in the universe is made highly probable, if not necessitated, by the character of the physical world and its laws. This argument proves to be the key to the book. It

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turns out that what de Duve wants to argue for most of all is that life on Earth is not here because of sheer accident or whim but occurred in a series of very small steps, any one of them improbable by itself but as an aggregate over time almost certain to occur. Life need not have arisen exactly as it has (with primates, flamingos, and dung beetles), but the laws of physics, chemistry, and biochemistry guarantee that life will occur not only on Earth but on other planets as well.

This extends to the emergence of intelligent life as well. Contra Stephen Jay Gould and others, de Duve argues that there is a direction in evolution and that intelligence is a likely product of evolution. It is here that the title *Vital Dust* comes to make sense, for the argument ultimately aims to provide a rational explanation of the emergence of both life and intelligence. De Duve states, "To Monod's famous sentence 'The universe was not pregnant with life, nor the biosphere with man,' I reply: 'You are are wrong. They were.'"

Given de Duve's brief but sweeping discussion of the development of life, the book is probably most valuable as a fairly in-depth introduction to the central issues surrounding the scientific accounts of the emergence of life in the universe and the argument that such life is likely to occur. The work's greatest strength, however, is also its weakness, for in trying to give a consensus account of the emergence of life, de Duve mutes his own voice to the point that it is only in the final pages that the potential strength of his argument comes through.

Vital Dust also includes a glossary, is reasonably well-documented, and includes a basic bibliography for additional reading.

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The Good Life and the Human Good. Edited by ELLEN FRANKEL PAUL, FRED D. MILLER, and JEFFREY PAUL. Cambridge: Cambridge Univ. Press, 1992. 211 pages. \$19.95 (paper).

Questions about the limits of our knowledge of the good life and the human good may seem irrelevant to theists confident that God's word warrants their judgments about good and evil. Any attempt to show the reasonableness of such faith claims, however, must consider the extent to which these claims can be supported independently of revelation. Although this book, a collection of essays assembled by a political scientist and two philosophers from Bowling Green State University, does not explicitly address theists seeking such confirmation, it does explore the limits of various forms of consequentialist and teleological ethical systems. Familiarity with these arguments may be essential to the project of developing a theistic ethic founded on the human good.

The most convincing case for the limits of consequentialism is in James Griffin's "The Human Good and the Ambitions of Consequentialism." Griffin argues that consequentialism is excessively ambitious because it tries to derive the norms of rightness from an account of the good. I will focus on three of his arguments. In one argument Griffin maintains that no pure form of consequen-

tialism yields any judgments of morally right action without using some high-level principle of right action. This is because no form of pure consequentialism yields such judgments without the aid of some conception of equal respect. But any conception of equal respect is a high-level principle of right. If a consequentialist counters that the principle of right action is simply rationality, not equal respect, Griffin replies that judgments about rationality include judgments about what counts as good moral reasons. In any consequentialist system, for example, there are hard cases about which one assumes that there is more reason to maximize than to equalize. This is hardly a self-evident requirement of rationality. Griffin thus unmasks a substantive assumption about the rightness of actions embedded in consequentialist thought.

In another argument Griffin considers those consequentialists who broaden the meaning of good to include promise keeping and conceptions of justice. He argues that if this extended notion of good is accepted, and if we are obliged to maximize this good, we are obliged to maximize voluntary acts such as promise keeping. It is not in our power, however, to bring about the maximum amount of voluntary promise keeping. Inasmuch as *ought* implies *can*, such an obligation could not be binding, so this enriched sense of consequentialist good is flawed.

In a third criticism he argues that promotion of the good is not the sole right-making feature of actions because promotion of the good is not the only consideration that ultimately determines a moral reason for action. The limits of our will, the demands of social life, and the limits of our knowledge ground many of our actions. Writes Griffin: "Even the norm 'Do not deliberately kill the innocent' derives directly from the importance of life, not from the unmanageable calculation of the effects of our adopting this norm rather than any other possible one" (p. 131).

Although I think Griffin's points against pure consequentialism are on target, I am less certain that he has identified any norms that cannot be explained by the consequentialist. The norms based on convention, human institutions, or the limits of knowledge can be seen as instrumentally valuable to the consequentialist's good. Some version of rule utilitarianism can recognize these other goods as necessary parts of, or means to, the consequentialist's good. However, I believe Griffin is right in raising questions about the content of the consequentialist's notion of the good.

Hedonistic forms of consequentialism receive a thoroughgoing critique by Shelly Kagan in "The Limits of Well-Being." Kagan criticizes the unrestricted desire theory of hedonism in an argument that I reconstruct in the following way:

1. If hedonism is true, then what makes one well off is the satisfaction of one's desires.
2. If what makes one well off is the satisfaction of one's desires, then satisfaction of one's desires that have nothing to do with oneself contribute to one's well-being.
3. But satisfaction of desires that have nothing to do with oneself do not contribute to one's well-being.
4. So hedonism is not true.

Kagan assumes premise 1 is true, given what he calls the unrestricted desire theory of hedonism. In premises 2 and 3 the phrase “desires that have nothing to do with oneself” is ambiguous. The phrase could mean desires that are not about oneself, or it could mean desires that do not benefit oneself. If the latter is meant, premise 2 is necessarily false and premise 3 is necessarily true; but if the former is meant, premise 2 is analytically true, whereas premise 3 seems false. Since Kagan argues for the truth of premise 3, I take “desires that have nothing to do with oneself” to mean desires that are not about oneself.

Kagan supports premise 3 by considering the case of a stranger one meets on an airplane. One hears her life story and desires that she do well in her job. If one never sees or thinks of the woman again, however, the satisfaction of the desire for the woman to do well does not contribute to one’s well-being. Writes Kagan, “Since my desires can range over facts that have nothing whatsoever to do with me, the satisfaction of such desires cannot constitute my well-being” (p.171). In other words, because the desire is not about me, its satisfaction does not contribute to my well-being.

The example with the stranger shows that changes in a person’s well-being must make a difference *in* the person. From this Kagan concludes that any change in a person’s well-being must involve change in the person’s intrinsic properties. A consequence of this view is that if a person were genuinely loved rather than deceived about being genuinely loved, the person would be no better off because being deceived and being loved are not intrinsic properties of a person. Kagan admits that this conclusion runs counter to his intuitions, but he feels that, because well-being is itself an intrinsic value, any changes in a person’s well-being require changes in the intrinsic properties of the person.

Kagan has done a first-rate job of describing an important dilemma that faces any theory of the good based on well-being. A distinction between two senses of *intrinsic property* might give us a way out of the conundrum. Just as *intrinsic value* can mean a noninstrumental value (one sought for its own sake) or a nonrelational value (one that holds independently of the existence of other objects), so *intrinsic property* can mean a noninstrumental or a nonrelational property. Being genuinely loved by one’s parents, for example, is a relational and noninstrumental property of a person. It is relational because the property exists only as a relation between the parent and the child—but, because a genuine love for the child is a love that is for the sake of the child itself, the property is not instrumental. Whereas a parent’s genuine love for a child typically results in the parent’s contributing to the welfare of the child, such contributions are not necessary features of the love. Consider a parent who gives a child up for adoption. Although the parent never makes contact with the child, she may still love the child, as evidenced by her regularly hoping for and thinking about the child’s well-being. In this case the love for the child would not be instrumental to the well-being of the child. Rather, the very fact that the child is related to the parent in this way seems to make the child better off. The evidence for this possibility may be that if we could choose a state of affairs in which we would be loved by our parents even if we did not know that they loved us, and one in which they did not in fact love us, we would choose the former. It may be possible that there exist relational goods that are not instrumentally valuable to a person’s well-being but that do in

fact make a person better off. If there is such a possibility, the notion of well-being may not be so limited as Kagan thinks.

A more fundamental attack on the very consistency of any consequentialist or teleological system of morality is expressed by John Kekes in "On There Being Some Limits to Morality." Kekes holds that a necessary condition for moral agency is the nonmoral value of having the motivation to continue living. The fulfillment of this nonmoral value may require an individual to perform immoral actions. Hence, it is possible that moral agency requires immoral behavior. I have formalized his argument:

1. Necessarily, if an individual is able to be a moral agent, then the individual has the motivation to continue living (that is, has a minimally acceptable life).
2. It is possible that necessarily if the individual has the motivation to continue living, then the individual performs an immoral act.
3. So it is possible that necessarily if the individual is able to be a moral agent, then the individual performs an immoral act.

Such a provocative argument demands that we look at how Kekes supports his premises. He assumes that premise 1 is true. He describes cases that support premise 2. One case involves a man whose ruling passion in life is collecting porcelain figurines produced in Bohemia in the eighteenth century. Without collecting porcelain figures the man would have no motivation to continue living. Because he lives in Prague during the Second World War, the only way he can secure the kind of governmental support needed to continue collecting porcelain is to collaborate with and publicly endorse the Nazi regime, and to make some false public statements. The collector's identity, the integrity of his personality, his attitude toward the world, and the meaning and purpose of his life are inseparably connected to the collection. According to Kekes, it is just not reasonable to expect the collector to relinquish the activities that give his life meaning.

In Kekes's view the motivation to continue living is a nonmoral good, so it escapes the scrutiny appropriate for a moral good. For Kekes, nonmoral values have to do with benefits secured or harms avoided primarily by the agents for themselves, whereas moral values concern benefits and harms that the agents cause others. For example, being in peak physical condition is a nonmoral value, whereas being kind to others is a moral one.

But Kekes is wrong to take the motivation to continue living as a nonmoral good. Neither Mill nor Aristotle would distinguish moral from nonmoral value in the way Kekes does. For Mill, harms and benefits to oneself contribute to the general happiness inasmuch as one's own good is a constitutive part of the general happiness. For Aristotle, the good of the individual involves intentionally functioning to the best of one's ability. Being motivated to continue living contributes to the general happiness; it also contributes to intentionally fulfilling or not fulfilling one's function. So in either Mill's or Aristotle's view, the nonmoral value Kekes takes as necessary for agency is a genuine moral value. If the motivation to continue living is a moral value, it is subject to moral evaluation. Morality will require the porcelain collector to change what gives meaning and purpose to his

life. Contrary to Kekes's opinion, it is reasonable to expect that much of the collector; if one cannot, morality loses its transformative power. On the other hand, Kekes does show that a meaningful life need not always be a moral one. Heroes and scoundrels can do wrong and live lives that have meaning for themselves. This thesis, however, is not the provocative one that Kekes believes he is supporting.

I may have misinterpreted Kekes. He may simply be showing that it is possible to act reasonably and immorally at the same time. If this is his claim, Warren Quinn provides a helpful corrective in "Rationality and the Human Good." Quinn offers an argument to show that it is not rational to seek a shameful or an immoral means to a moral end. Quinn shows that in practical rationality the means is not simply instrumental to the end; it is constitutive of it. In choosing a means to an end, one chooses a larger object that includes both the means and the end, living in such a way as to obtain the end by way of the means. From this it follows that if one seeks to obtain a noble end by a shameful means, one must see the shameful act as constituting a part of the agent's good. Such a conclusion is self-contradictory, however, so practical rationality cannot allow reason to seek evil means for good ends.

In contrast to the discussions of the limits of consequentialism, Julia Annas offers a defense of a common criticism of teleological systems in her essay "The Good Life and the Good Lives of Others." Modern interpreters of ancient eudaimonism, as well as critics of contemporary virtue ethics, worry that these two ethical theories are flawed because they are based on the agent's concern with her own life in a way that is fundamentally egoistic and so is not viable as an ethical theory. Annas responds that eudaimonistic theories are formally self-centered, inasmuch as they develop from the agent's reasoning about her own life, but that they are not self-centered in content. Eudaimonism does not imply that I should care about the good of others because it forms part of my good. Rather, I should care about others for their own sake. It is true that the good of others is part of my own final good, but this is not the reason I should care about others.

Annas goes on to consider two more serious challenges to eudaimonism: (1) the scope of friendship is too narrow to support the ethically required concern for others, and (2) a genuine moral theory should demand that the interests of others have a nonderivative status as important as that of the agent's own concern. While Annas admits that Aristotle's brand of eudaimonism cannot adequately answer the narrowness-of-scope challenge, she argues that the Stoic's version can. The Stoics hold that the rational development of our natural tendency to be concerned for others in fact requires impartiality—not just friendship, which is far less demanding. Indeed, she explains that within the Stoic tradition this commitment to impartiality was questioned, not because it was inconsistent with eudaimonism, but because it was viewed as inconsistent with commonsense claims, which give greater weight to relationships that are closer to us than those that are not. Annas shows that in ancient Greece eudaimonism was a type of theory that could accommodate stronger or weaker demands on other-concern. The eudaimonistic framework included hedonistic theories that had a problem accommodating concern for others; Aristotelian theories which assumed that such concern is required in the agent's life to some degree; and Stoic theories

that demanded an equal degree of impartial concern towards everybody. The disagreements came over what rationality required, not over eudaimonia as such.

Teleology and the limits of consequentialism are not the only topics addressed in the anthology. Three essays consider the advantages and disadvantages of monistic or pluralistic theories of the human good. In "Two Theories of the Good" L. W. Sumner argues that perfectionism and welfare are two reasonable candidates for a monistic conception of the good. Perfectionism, he argues, is false; therefore, welfare appears to be the only viable candidate. In "Good Lives: A Prolegomena" Lawrence C. Becker examines several monistic accounts of the good. He finds that each one fails to account for seventeen distinct goods that Becker takes as necessary for any account of the good life. Becker argues that because there is no independent guarantee that human excellence is compatible with inner unity, integrity, congruence, rectitude, and mutual love, the human good cannot be monistic. Amelie Oksenberg Rorty argues in "The Advantages of Diversity" that the different excellences of character that result from different moral systems contribute to the ability of society to handle different problems. The diverse answers to the question, What is the good life? allow for a division of labor that facilitates the pursuit of various ethical projects. However, one can make sense of the division-of-labor analogy only by presupposing some common goal—which must remain vague, for specificity erodes commonality. Rorty's paper describes well the situation many a university community faces as it attempts to make practical decisions about hiring, curriculum, and institutional values.

A common message underlying the various approaches and topics considered in this anthology is that there are limits to using rationality as a nonmoral criterion that generates a theory of right action based on the human good. For theists, the moral of these essays may be that any natural basis for theistic ethics must include a conception of the good richer than that provided by rationality alone. Griffin, Kekes, Kagan, Quinn, and Annas all agree that there is no value-free notion of rationality strong enough to deliver a content-rich notion of right action. This means that a case must be made for certain value-laden notions of rationality that can be defended without recourse to revelation. Such a suggestion may remind readers of a similar search for the proper value-laden sense of rationality that explains scientific theorizing.

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Pragmatism and Pluralism: John Dewey's Significance for Theology. By JEROME PAUL SONESON. Minneapolis: Fortress Press, 1993. 198 pages. \$15.00 (paper).

Jerome Soneson is assistant professor of religion at the University of Northern Iowa in Cedar Falls. This book is his doctoral dissertation written at the Harvard Divinity School under the direction of Gordon Kaufman. The book looks and reads like a dissertation. It is filled with lengthy quotations, mainly from John Dewey's works, and with extensive footnotes, most of which consist of comments

on secondary Dewey literature. It is, however, jargon free and readily accessible to the philosophical lay person. It is straightforward in its organization and presentation.

This book is not about religion and science specifically. Nonetheless, it should be of interest to readers of *Zygon* for at least two reasons. First, given the plurality of Christian theologies and of religions that is Soneson's topic, linking religion and science cannot be just a matter of harmonizing contemporary scientific fields with one's favorite version of Christian theism. The religious situation, both within Christianity and without, is too complicated and conflicted for so simple a solution. Second, Deweyan religious humanism is a religious option itself, one whose way of reconciling the religious aspects of human life with ongoing scientific inquiry is underrepresented and underappreciated in the pages of *Zygon*.

Soneson's thesis is that theological pluralism within Christianity and, more generally, religious pluralism in today's world present problems for which Dewey's later philosophy provides a solution. Both theological and religious pluralism are, according to Soneson, instances of difference and conflict between cultural norms. Dewey's philosophy after 1914, says Soneson, "represents a thorough, creative, and powerful attempt to respond thoughtfully and responsibly to conflict among normative cultural interests" (p. xv).

Soneson finds Dewey helpful both for explaining how and why it is that pluralities of norms emerge in human history in the first place and for showing how multiple norms can be transformed into better integrated wholes when they come into conflict with one another. Regarding the latter, Soneson claims to find in Dewey's mature philosophy the materials for "a general method for reflection appropriate for guiding human interaction within a context of divergent and conflicting normative interests" (p. xiv).

Soneson develops his thesis in six chapters in which he discusses the problem of religious pluralism (chapter 1); the anthropological background (chapter 2); art and the transformation of interests (chapter 3); thinking and the transformation of interests (chapter 4); the religious function of life and the problem of religious pluralism (chapter 5); and philosophy, metaphysics, and method: toward a theological method in the context of religious pluralism (chapter 6).

In a key passage, in which he is commenting on Dewey's metaphysics, Soneson says that "our creation and use of meanings within contexts . . . presupposes that *an important connection exists between human life and its contexts* that make meanings possible and significant. This presupposition in turn implies that the study of human meanings is not simply a study of human life but of the kind of connection between human life and its contexts that our use of meanings presupposes" (p. 169).

According to Soneson, what Dewey contributes as a philosopher to a resolution of the problem of religious pluralism is a unique understanding of this connection between human life and the rest of the world. In Soneson's interpretation of it, this understanding is at once methodological, metaphysical, and theological.

It is methodological because Dewey outlines a procedure that is available to human beings for adjusting conflicting values to one another by creating more comprehensive ideals in which the original conflict is eliminated (p. 184).

It is metaphysical because Dewey provides an account of the world in which humans have to operate such that utilization of this method makes sense in this context (pp. 173–76).

It is theological because Dewey's portrayal of this complex human-procedure-grounded-in-its-worldly-context amounts to a unification of the two most important functions of divinity, those of relativizing and humanizing our lives, into a single worldly process of which we humans are a part but not the whole, namely, that of growth (pp. 190–94, especially footnote 86).

There are problems with each of these three components of Soneson's account of Dewey's, and pragmatism's, contribution to discussions of religious pluralism. Theologically, Dewey undoubtedly did suggest using the word *God* to designate an active relation between ideal and actual. However, it is equally clear that, so far as Dewey is concerned, the integrative function that interacts with the rest of the natural world is located only in human beings so far as we know or should care, for that matter. After all, Dewey titled the concluding lecture of *A Common Faith* "The Human Abode of Religious Function." His conception of God does not locate all of the functions of divinity in the same thing.

Methodologically, for all of Dewey's talk about method and Soneson's interpretation of that talk, there is nothing remotely close to a description of a procedure that, if followed, produces better integrated values out of conflicting ones. Values don't get integrated, when they do, because someone follows a value-integrating procedure. They get integrated because someone happens to come up with a new way of talking in which formerly disparate values are more compatible with one another than they were before. What Soneson does describe, and what pragmatists do advocate, is an open-minded attitude that is prepared to live with trial-and-error experimentation. Undoubtedly, such an attitude has much to offer when it comes to dealing with the conflicts caused by religious differences. But that is a far cry from bringing a procedure to bear.

Metaphysically, there is no reason to suppose that people who would bring human creativity to bear on the problems posed by religious pluralism have to believe that the world in which they do so is of one sort rather than another—for example, that it is organic and open rather than mechanical and deterministic. What is part of a tightly determined causal chain under one description may be an act of creative genius under another. Pragmatism teaches us that in such cases there is no such thing as the one description that is privileged by its extracausal truth-making connection to reality. With such a multiplicity of descriptions available to be used as needed, there is no need to presuppose that one of them rather than another portrays the world as it would have itself portrayed in order to deal creatively with problems like that of religious pluralism.

Those who claim Dewey as an intellectual ancestor have divided philosophically and theologically into two clans. There are neopragmatists who eschew metaphysics and philosophical method and who are religious humanists. And there are radical empiricists who promote the thesis of continuity between experience and nature, along with a philosophical methodology appropriate to that metaphysics, and who are naturalistic theists. Richard Rorty is the best contemporary example of the first group. Soneson, it would seem, is an example of the second.

The book about the contributions of the first (antimetaphysical and anti-methodological) sort of pragmatism to the matter of religious pluralism has yet to be written.

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A Sense of the Divine: The Natural Environment from a Theocentric Perspective. By JAMES M. GUSTAFSON. Cleveland, Ohio: Pilgrim Press, 1994. 176 pages. \$16.95 (paper).

This small book contains the 1992 Moll Lectures at Baldwin-Wallace College. In these lectures, James Gustafson considers how the theocentric perspective he advocated in the two volumes of his *Ethics from a Theocentric Perspective* makes a difference when reflecting on issues arising from the natural environment. Readers of this journal know that Professor Gustafson's alliance with and use of the special sciences is central to his theological ethics. This volume steps back from particular problems and resolutions of special ethics to look at some assumptions and attitudes of scientists and others toward the natural environment, along with the religious significance and ethical import of these views. It also offers the author an opportunity to develop an approach to environmental ethics that supplements materials in his larger work.

We experience the environment in many ways, depending on our frame of mind and the demands of our situation. The environment is thickly textured and overwhelmingly present in Gustafson's reading. He includes personal recollections and accounts of others as well as more reflexive, scientific, technological and ethical interpretations of it as he references the term *nature*. Yet, while there are many practical and aesthetic reasons to be concerned about the fate of the environment, Gustafson thinks he can detect a more than aesthetic, religious appreciation that underlies particular interpretations and purposes. Our connection with environing reality can mediate a sense of the sublime, of an awe-evoking greatness that shelters our lives and the lives of all else we know.

The sense of the sublime is nourished in many ways. Sometimes we stand back from immediate engagement and apprehend a strikingly beautiful or remarkable fittingness of things. Other times we forget to be distracted and pay close attention to things as intrinsically valuable. But most often it is when things are threatened that we suddenly become aware that something of value is being destroyed. The interdependence of all things is a fact, but at such times it is also a value to be protected and celebrated. Thus, the revulsion commonly felt when a thing of beauty is made ugly or a useful thing is rendered useless is a signal that something is very wrong, and we are morally challenged to consider what we can and must do about it.

Such formative experiences underwrite attitudes toward the environment that shape the more technical work of those concerned with scientific knowledge, technological design, economics, politics, and other cultural aspects of decisions

about the environment. To have an environmental ethics is to have a comprehensive standpoint that brings the details of the experienced world into a coherent whole. The interdependence of things is an observable fact; their harmony or equilibrium is not. Competition and conflict between living beings, each of which bears its own value, is as prevalent as cooperation and assimilation. Precisely because things differ in their value for other things while retaining value in themselves (kudzu in the garden!), one must decide the best course of action to take under particular conditions. Such decisions are always contestable and provisional, but they presuppose reasons why we must be concerned.

Gustafson proposes a close-coupling of the sense of the sublime with a sense of the divine. The sublime has religious overtones, a sense of greatness and surpassing value. Environing nature has always called forth a sense of human limits, human dependence and participation in a greater whole, human sustenance, and challenge. These senses underly valuing nature for either its intrinsic beauty or goodness (for whom? for what?) or its utility for resourcing the human project. "We are left with a sense of wonder, a sense of the sublime, maybe even with a sense of the divine" (p. 30). Gustafson is not claiming that all of us feel this all the time, or that our modern culture of power over nature does not affect all of us at least some of the time, but only that a sense of the sublime, and sometimes the divine, is pervasively interwoven with ethical reflection in the representative texts he examines.

The sense of the sublime or the divine arises from our concrete experiences of being in the world. "We experience the Divine . . . in the details" (p. 14), Gustafson tell us. The power that brings life into being, God, is found in the complex of detail that characterizes everything there is. It is in the details, in their sustaining and ordering conditions, that awareness of an environing world is born in us on a prereflexive level. It is in relation to the details that intentional action and explanatory interpretations are called forth on a reflexive level. And it is in the details that religious ways of interpreting the world are grounded. Humanity's relation to the environment is grounded in innumerable micropractices, direct experiences, and affectivities that evoke respect for the whole.

This focus on the empirical aspects of human life in the natural world gives the lectures their texture as well as their subject matter. No standpoint that looks away from specifics in the observable world, from competitive and conflictive relations as well as symbiotic and altruistic ones, can be adequate for ethics. Nor can any perspective that presumes to find traces of an ultimate purpose that guarantees that things will turn out well for human beings or other creatures. Yet attempts to be comprehensive must deal with the details of our "world" as a complex reality in order to form policies that guide human action in relation to it, using the best knowledge available to understand how everything affects everything else.

The sense of God, as Gustafson construes it, is just this sense of a sustaining and ordering power that both relativizes endemic human self-preoccupation and underwrites human accountability for decisions and actions that affect the environment of which they are a part. He offers no argument that leads stepwise from the concrete powers that sustain and limit everything in the universe to God as the power that brings all things into being within the conditions of

existence. Rather, he proposes a coherence between the idea of God in radical monotheism and the sense of sublimity or divinity that leads to respect for everything that is.

This theocentrism leads to valuable elements in any environmental ethic. It nurtures living within the limits of human life and sustains valuable qualities in human life such as gratitude, thanksgiving, remorse, humility, and accountability. It fosters a vision of a human life as a participant in the cosmos, not as a dominating or subjugated being. It supports humans as they increasingly accept their power to make changes in things: choices must be made between valued parts and a valued whole, with the need to maximize value. Every choice is a sacrifice of some things for others, so none can be made thoughtlessly or selfishly.

Theocentrism also leads to an ethical maxim, expressed at the end of these lectures and explored with great care and precision in Gustafson's larger work: to act toward all things according to their and our relation to God, that is, according to the sustaining and ordering power by which they are held in being. In order to discern the relation to God, attention must be paid to the details of the life of all things (including ourselves); to the empirical conditions and the laws and patterns of the world in which we all exist. Even though there is no grand unified ecological theory, choices must still be made on the basis of what can be discerned and learned through studying the effects of what we do.

Religious traditions can educate and nourish the sense of God, creating a disposition to be concerned with environmental issues. A theocentric religious perspective displaces the anthropocentrism that confuses so many environmental issues. But only careful study of the world of nature, history, culture, and "personal living" can illuminate "the patterns and processes of the interdependence of life in the world" (p. 148).

Religious thought and life have not always been a friend of the natural environment; they often have been humanocentric to the detriment of humanity itself as well as the world that birthed it. James Gustafson's work points in another direction with clear-sighted wisdom and generosity toward the work of others. He is a trustworthy guide to understanding one powerful religious meaning of human concern for the environment.

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Galileo: For Copernicanism and for the Church. By ANNIBALE FANTOLI. Studi Galileiani, vol. 3, trans. GEORGE V. COYNE, S. J. Vatican City State: Vatican Observatory Publications, 1994. Distributed by the University of Notre Dame Press; in Italy and the Vatican City State by Libreria Editrice Vaticana. 540 pages. \$21.95.

The last decade has given us a number of studies on Galileo Galilei that served to a large extent to demythologize the martyr of science and to clarify historic events that led to the Galileo trial. In 1979 Pope John Paul asked for a thorough

examination of the whole Galileo case. A commission to accomplish this task, created in 1979, was headed by Cardinal Paul Poupard. The result of its studies was the “rehabilitation” of Galileo in 1992.

During this same period the Vatican Observatory created its own study group, which sought the cooperation of scholars from throughout the world. Under the direction of George V. Coyne, S.J., they published their results as a series entitled the *Studi Galileiani*.¹ The present volume is the last in this series to be published. It has profited from the earlier publications and is the best approximation to a definitive description of the Galileo case to emerge to date.

The author has drawn on many sources—some well known, others unfamiliar—including the correspondence of Clavius and other Jesuit contemporaries of Galileo. On this wide basis Fantoli avoids the trap into which many writers on Galileo have fallen—namely, to defend an interpretation of the historical facts based on singled-out sources. For example, Pietro Redondi, author of *Galileo Heretic* (trans. R. Rosenthal; Princeton, N. J.: Princeton Univ. Press), based his interpretation on a single anonymous document.

Fantoli starts by laying out the scientific problem for the Copernican versus the Ptolemaic system as the problem could be discussed with reference to the observational data available in Galileo’s time. It becomes evident that evidence for the Copernican view was not convincing at the time *De Revolutionibus* was published. For many years in Padua, Galileo himself taught astronomy based on a manual written by Joannes Sacrobosco (John of Hollywood) in the middle of the thirteenth century. In fact, this work remained the dominant textbook in most European universities up to the end of the seventeenth century.² Though Galileo had read *De Revolutionibus*, he had no convincing proof for the Copernican theory. As Fantoli shows convincingly in great detail, Galileo worked for years to find such a proof. He was handicapped in this effort by external and internal forces.

Many accounts of the external enemies are exaggerated. Certain philosophers and theologians who felt themselves menaced by the breakdown of the traditional geocentric worldview formed anti-Galilean factions; Ludovico della Colombe was one of their leaders. As Fantoli shows in thoroughly documented detail, however, Galileo had many friends among theologians and especially among the Jesuits. After conducting their own observation, the latter accepted the new “stars”—the Jupiter moons discovered by Galileo—as well as his statement that the moon has a surface similar to the earth’s. Both ideas were disturbing. They refuted the theory of the *materia quinta*, the special stuff the heavenly bodies were made of, as well as the idea that all heavenly bodies revolve about the earth. The Jupiter stars revolve about their own planet.

Influenced by Reformation doctrines on the authority of Scripture, the Catholic Church no longer followed the teaching that the Bible tells how we go to heaven, not how the heavens go. Abandoning the view that the book of nature stands as a revelation in its own right, and making the biblical text the absolute and dominant source of truth, the Holy Office condemned the Copernican system as heretical (pp. 198–201). As Fantoli points out, the Congregation of the Index did not use such harsh words; it ruled that Copernicus’s book be “suspended, until it be corrected.”

Galileo was not mentioned in any of the judgments and was only privately enjoined to abstain from teaching or writing on the Copernican views, but he certainly was targeted by the procedures. However, as Fantoli points out, if Galileo had had irrefutable proof of the correctness of the Copernican theories, the theologians—or at least Cardinal Bellarmine—would have accepted them. Thus Galileo's problem was that he had no definite proof. The phases of Venus could be explained within the then widely accepted system of Tycho Brahe. Galileo was also handicapped by his own acceptance of the traditional idea that heavenly bodies must move in circles: he refused to accept Kepler's conclusion that the bodies move in elliptical orbits. Assuming the circular orbits, calculations of the planet's positions required as many epicycles as the Ptolomaic system and were at least as tedious. If he had accepted Kepler's ellipses, Galileo would have overcome this problem and could have presented a more-elegant mathematical solution.

Thus the difficulties of Galileo were, as Fantoli shows abundantly, a strange mixture of the intricacies of the Renaissance courts, with their complex power structures, and Galileo's lack of convincing proof for the Copernican system. The situation became a kind of tragedy when Galileo—encouraged by the accession to the papacy of Urban VIII, whom he considered a friend—advanced his claim to have definite proof for the Copernican system in the movement of the tides. This argument is obviously wrong; it is probably the greatest blunder Galileo ever made. As Fantoli observes, Kepler already had the correct ideas when he linked the tides to attractive forces of the moon; but Galileo disliked Kepler and probably had never read his arguments.

All this does not really explain why Galileo became so polemical in his *Dialogue . . . concerning the Two Chief World Systems of the World, Ptolemaic and Copernican*. He even put the ideas of the Pope, with whom he had discussed the subject, in the mouth of a character dubbed Simplicius.

The condemnation of Galileo in 1633, based on his disobedience to the injunction of 1616, did not even consider his arguments. It ordered the painful procedure of his abjuration in public. His prison sentence was commuted to lifetime house arrest in the homes of friends and finally his own villa. As Fantoli shows (p. 426), these events were the bitter consequence of Galileo's misjudgment of reality and an "excess of doctrinal power."

The book claims not to be a biography—which it is not in the strict sense of the word. It rather shows how, in the person of Galileo, two visions of the universe clashed. The lonely fighter for the unproven, but correct, vision was fatefully exposed to powerful supports for the older vision. Fantoli tries to avoid diminishing the merits of Galileo in spite of Galileo's lack of definite proof. The book also seeks to show that the church—which, wrongly applying "the principle itself of authority" (p. 426)—did follow objectively the procedures of the day. Thus Fantoli pursues the difficult goal of providing a balanced account of the events of the early seventeenth century, in which both sides of the Galilean conflict were right and wrong in their own way.

The last chapter of the book sketches the slow way in which the church gradually distanced itself from its misjudgment. The process was marked by internal power struggles, which finally came to a close when Pope John Paul II

recognized publicly, not only the error of the church, but also the role “that the Galilean drama had played in the ‘more correct understanding of the authority which is proper to the church’ and that drama’s function of ‘teaching’ the church” (p. 487).

Fantoli’s interpretation of the events, thoroughly supported by documented arguments, may at times be open to discussion. There cannot be any doubt, however, that the book’s fullness of detailed data and its balanced discussion of other authors’ positions—especially in the extensive and highly important notes—make it a milestone in scholarly work on Galileo.

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NOTES

1. The first volume was published in five parts: (1) Olaf Pederson, *Galileo and the Council of Trent*, Vatican City State: Libreria Editrice Vaticana, 1991; (2) Ugo Baldini and George V. Coyne, *The Louvain Lectures of Bellarmine and the Autograph Copy of His 1616 Declaration to Galileo*, Vatican City State: Libreria Editrice Vaticana, 1984; (3) George V. Coyne, Michael Heller, and Joseph M. Życiński, *The Galileo Affair: A Meeting of Faith and Science*, Vatican City State: Libreria Editrice Vaticana, 1985; (4) Joseph M. Życiński, *The Idea of Unification in Galileo’s Epistemology*, Vatican City State: Libreria Editrice Vaticana, and Notre Dame, Ind.: Univ. of Notre Dame Press, 1988. The second volume is the Italian original of the presently reviewed vol. 3.

2. The book was re-edited by Clavius of the Collegium Romanum and by Philip Melanchthon of the University of Wittenberg. Both editions had more than fifty reprints throughout Europe, whereas the *De Revolutionibus* of Copernicus had no more than three for the first hundred years.