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INTRODUCTION: SCIENCE AND THEOLOGY ON THE END OF THE WORLD AND THE ENDS OF GOD

Science and Theology on a Realistic Eschatology: A Challenging Dialogue

Not only our individual life but also the universe is doomed to physical decay! This scientific insight of the twentieth century poses a great challenge to Christian theology and faith. How can we believe in God and think of God and God's intentions for the world when human remembrance and history will finally come to an end? Should we settle with an ideology of "just-me-and-my-God", which does not care much about the creator of heaven and earth and the God of the world? Should we join those who are not concerned very much about a future beyond two generations down the road? Or should we be haunted by the notion of the finitude of the universe and its effects on our understanding of the power of God over reality, history, and the future? Should we be haunted by the threat of apathetic and cynical moods, caused by the impression, that if the universe is finite, then there is only silence in the end. In the long run everything will be in vain! This book deals with these difficult questions.

At the same time this book is a contribution to the currently expanding and intensifying dialogue between science and theology. In the last fifteen years this dialogue has moved from a "methodological phase" through a "physics phase" into a stage in which theological topics and questions have become more and more important.[1] The discourse between science and theology on the subject of "the ends of the world and the ends of God" clearly belongs to this last phase. Its topic, called eschatology, is a particularly challenging one for the theology and science discourse. It seems to provoke an irreconcilable split between the natural sciences and theology by implying that there are two distinct realms of reality.
- There is, on the one hand, the realm of cosmic and natural reality that form the unique subject matter and domain of the sciences.
- On the other hand, there seems to be an eschaton--some type of supernature or hyperreality--

1 Cf. Ted Peters, Science and Theology. The New Consonance, Westview Press: Oxford 1998, 5ff.

as the realm of religious ideas and theological exploration.
The present volume questions this view of theological and scientific inquiry.

The book starts from a simple but startling observation. Most eschatological symbols and texts in the classical and canonical religious traditions do not concentrate at all on a realm of pious wishes and fantasy about the end of the world and the ends of God. Instead, they speak of the continuity and discontinuity between this world and the world to come. For instance, they use the terms new creation, or new heaven and new earth, in order to indicate that there are continuities between the creation and the so-called eschaton, between our heaven and earth and the heaven and earth to come after our earthly life will have ended. The eschatological promises and images tell us that "flesh and blood will not inherit the kingdom of God" while at the same time they insist on the "resurrection of the body". This logic of continuity/discontinuity admittedly provides a difficult ground for a common discourse. The sciences are challenged to face an area or mode of reality beyond their usual realm of competence. The theme of eschatology requires that science expands its scope of concern and avoid reductionistic assumptions about the nature of reality. "The universe", as Henry David Thoreau once put it, "is wider than our views of it." Eschatological symbols, with their strange logic of continuity/discontinuity, challenge the sciences to forego equating our views of the universe with the universe itself. However, the same logic presents a challenge to theology.

All too often theology has used eschatology to move into speculations about a virtual reality, something that science will not readily accept. In this way, theologians have tried to immune their claims from the judgement of the sciences. If the sciences are challenged by eschatological symbols to expand the scope of inquiry, theology, for its part, is made to confront in the most rigorous way possible the demand of publically warranted truth claims. The interest in a dialogue with the sciences about the strange reality called eschaton or eschata requires theology to seek a new approach. The contributions to this volume seek this new approach. They agree that their common topic is a realistic eschatology and that the discourse between science and theology should help us to explore grounds of hope and joy in the face of physical death and the threat posed by a finite world and universe.

Eschatology is not only a demanding topic in the "third phase" of the science and theology exchange. The multi-disciplinary discourse found in the following pages of this book makes it

a new and unique enterprise as well. Under the rubric "Science and Theology" most discourses in the past have brought together natural scientists, systematic or philosophical theologians and scholars in the field of religious studies. The three-year consultation on eschatology from which this book arose, held in Princeton and Heidelberg, made an effort to faciliate interactions by natural scientists and social scientists with systematic theologians and ethicists, but also with biblical scholars. The wager was that the careful study of the biblical texts might aid in the finer decoding of eschatological images, symbols, and modes of thought.

To be sure, the first meeting of this consultation led many of us to feel that we were trying to rebuild the Tower of Babel. Some colleagues complained about their difficulty in understanding the discourse, rationalities, and methods of the other fields. Some even spoke about a chaotic situation. But from meeting to meeting we gained coherence, while still holding to the complexity of the topic. In this respect, we avoided one standard tactic in navigating conceptual differences among disciplines. We did not succumb to the use of reductionistic ideas or formulae that would have allowed us to move on a single but abstract level of thought depleted of content. For example, we avoided the existential eschatology of the here and now characteristic of much earlier twentieth century theology. Such a position reduces the complexity of eschatological symbols to ciphers of inner self-consciousness. Yet we also jettisoned a socio-moralistic eschatology of an endless societal and global future in need of shaping and reshaping. In our determination to cling to the thickness, and even messiness, of creaturely and eschatologial reality, we reached a surprising level of coherence. We certainly hope that our readers will get a feeling for this multi-disciplinary striving for a realistic eschatology that aims at coherence of insights while keeping the complexity of the topic in mind.

This introduction highlights some basic yet important claims. It is not theology alone that must make a reality and entities unseen intelligible, but also the sciences. And it is not science alone that has to warrant difficult truth claims, but also theology. These analogous challenges, however, do not yet provide a comfortable common ground of exploration. Rather they call into question many all too familiar clichés:

- theology deals with realities unseen, science deals with visible reality;
- theology deals with feelings, science deals with facts;
- theology deals--at best--with personal certainty, science deals with objective truths a.s.o.

Once these clichés are shown to be problematic, an investigation of the current cultural context in which science and theology operate in western scieties can reveal several shared concerns. Among these is the common concern for a realistic eschatology that seeks to understand the ends of God in and with a world which will come to an end as surely as we all will go through physical death and decay.

Science and Theology in General: Making Belief in Reality and Entities Unseen Intelligible

Both science and theology have to speak about unseen realities in the course of their rational discourse. The dark companion of Sirius is invisible to us and we have to infer its existence indirectly from its apparent perturbing gravitational effect upon its bright partner. More fundamentally, the contemporary account of the nature of nuclear matter attributes to quarks and gluons the role of basic constituents, while at the same time asserting that they will never be observed individually. This is because they are "confined", that is to say, they are so tightly bound within the protons and neutrons that they compose that no impact will ever be strong enough to expel them. When we ask the elementary particle physicists why they believe so firmly in these elusive entities, they reply that it is because the assumption of their existence makes sense of great swathes of physical experience that otherwise would seem mysterious to us. The observable particles of nuclear matter form a series of families whose patterns and properties exactly correspond to what would result from their being made up of quarks. When high energy projectiles impinge on protons and neutrons in what is called a deep inelastic scattering process, they "bounce back" in just the way that corresponds to their hitting pointlike quark constituents inside.

The assumption of the existence of these unseen realities is then not a wild "leap of faith" against all we know about the universe. On the contrary, the assumption of their existence is warranted by what we already know about the universe. There is, we might say, continuity and discontinuity in scientific claims about the complexity of reality. Similarly, theologians can claim that belief in the unseen reality of God (or in more specific beliefs of this kind, such as the Trinity and the Incarnation) are also well motivated because they make sense of great swathes of spiritual experience. This is, again, not a leap of faith or Pascal's wager. What the theologians seek, no less than the scientists, is a clearer perception of the reality in question.

What is sought is a careful and yet realistic picture of reality. Only in this way is theology saved from reducing its claims and insights solely to matters of consolation and search for meaning.

In both disciplines, intelligibility is the key to reality, but reality is what undergirds intelligibility. The universe is wider than our theories about it, but we also and always grasp that reality in and through distinctly human ways of knowing. We are thus warranted in holding to the reality of what enables us to think in a comprehensive and satisfying way about our encounter with the way things are. This is the modest, but important, realism, basic to this book. If our concepts are to carry this ontological conviction, they will have to confer the deep intellectual satisfaction that we call understanding and go beyond the attainment of mere explanation. This distinction is crucial. Explanation is concerned with correlative strategies operating at a single level. Understanding aims at a comprehensive and deep making sense of what we see as "the whole", rendering intelligible complex constellations and interconnections of events. Hence our emphasis in this volume on thick accounts in both the sciences and theology.

Many theories of "understanding" are operative in theology and the sciences. Here too, just as with eschatological symbols, the authors of this volume have opted for some version of realism. This means that human understanding demands of inquirers a willingness to allow the object of understanding to form the concepts with which we frame our account of it. There is no universal epistemology, no single interpretative key that will unlock every ontological door. No one view captures the universe. Realism demands epistemic humility and also the tenacity to continue inquiry attentive to multiple perspectives or frames of reference. This point is readily illustrated from within physical science.

Scientists know the everyday world of classical physics in one way, the subatomic quantum world in quite another. If we were to demand of quantum entities the clear, picturable, and predictable properties of Newtonian particles, they would be totally unintelligible to us. Quarks and electrons can only be known on their own terms, in their Heisenbergian uncertainty. They then become convincingly intelligible, but the rationality that exhibits this intelligibility has its own idiosyncratic character (there is even a quantum logic, different from the classical logic of Aristotle).

Similarly, the divine nature is to be known in the way that God has determined to reveal it. It would be the reverse of being rational to demand of theology that it submit its inquiry into the transpersonal nature of God to protocols derived from the inquiries of a methodologically atheist science. But in saying this we are not reintroducing the old assumption that science deals with facts and truth while theology handles meaning and value. Our claim is more subtle and demanding: science and theology are both concerned with realities (facts and meanings; truth and value) attentive to the connection between understanding and what is presented to be understood. This entanglement of the "what" and "how" of understanding is the famous hermeneutical circle: how entities are known must accord with their nature; that nature is revealed in what we know of them. No discipline of thought and inquiry can escape its own epistemological circle.

These considerations suggest that, despite the differences in their subject matter, the sciences and theology share a cousinly relationship in the common search for truth about reality. The conviction that this is so is what undergirds the interaction between science and theology generally, and the specific project reported in this volume in particular.

Science and Theology in General: The Challenge to Evaluate and Warrant Truth Claims with Respect to Nature, Culture, and Religion

For a long time it has not been widely or adequately recognized that the dialogue between science and theology should have a genuinely **theological** focus. Many previous discourses worked on historical questions, ethical concerns, general methodological reflections or the endeavour to test a certain style of philosophy as a potential interface for dialogue. This has now changed.

In 1993 the Center of Theological Inquiry at Princeton sponsored a four-year consultation in which a highly interdisciplinary group (including the fields of cosmology, physics, chemistry, biology, environmental studies, philosophy, religious studies and theology) moved from an exchange of individual approaches over the discussion of general religious topics to a progressive specification of a common theological ground of discourse. For the second year of that initial project the notion of **God's activity** was selected; the third year focused on the notion of the **temporality of God's action in the world**. Finally, the consultation centered on

the two topics: **eternity and temporality** and **eternity and contingency**. Throughout the discourse scientifically and philosophically trained reflection were brought into a fruitful tension with theologically and exegetically trained thinking .[2]

Why is this type of discourse so important? In western cultures, public expectation relies predominantly on scientific procedures and not much, if indeed at all, on theology or the human sciences in the endeavour to come close to truth and evaluate evidence. Likewise, we seek to gain certainty and reliability in relation to difficult and critical issues through scientific inquiry. Despite the current crisis in scientific epistemology, and a growing suspicion as to the actual benefits of much of technological progress, the common assumption in western societies is that the measure and model for truth claims is found in the sciences. Indeed, the "modern age" itself is often associated with the rise and dominance of science.

This stance can have many ideological side effects. Instead of complaining about this, theology must rise to the challenge. It cannot give up seeking to make its impact on common sense and on contemporary mentalities. Christian theology has to expose and expound its theological truth claims in public discourse. It has to warrant its claims to truth. All endeavours to score points for theology by simply opposing the sciences should be discouraged. At the same time, theology and science have to clarify the limits of scientific insights.

There are signs of developments in the natural sciences that begin to encourage a richer account of reality and truth--even within their own circumscribed domain--than that of a strictly reductionist physicalism. The old Newtonian picture of a mechanical world of individual atoms, moving in the spatial container of the void, is certainly dead. General relativity describes an interrelational reality in which space, time, and matter are closely tied together. Quantum theory and chaos theory have shown that tame predictability is not a feature of most of nature. The infant science of complexity theory begins to suggest that the unexpected powers of self-organisation present in complex systems means that the pattern-forming concept of information has to be added to the long familiar concepts of matter and energy for an adequate scientific account of their behaviour. Perhaps most surprising of all, it has been shown that quantum systems exhibit a counterintuitive "non-locality" (togetherness-

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2 The discourse resulted in many individual publications (books and articles) of the participants. A collection of some of these contributions appeared in Theology Today 55 (October 1998).

in-separation). When two entities have interacted with each other they will retain a power of mutual influence however widely they may subsequently separate. This "EPR effect", as it is called, implies that the subatomic world cannot be treated atomistically.

The metaphysical implications of these remarkable scientific developments are still matters for discussion and argument, but it is clear that physical reality is certainly more subtle, and probably more supple, than had been supposed in the past by classical physics.

Why Eschatology? Seeking Orientation in Shifting Eschatological Moods With Their Impact on Worldviews and Ethos: Common Concern of Scientists and Theologians

Eschatology might seem to be a demanding--if not impossible--topic for the interaction of science and theology, but it proves to be a most promising starting point to demonstrate the fruitfulness of the dialogue. The last thirty years have witnessed an astounding shift in eschatological moods. In the sixties, Jürgen Moltmann's Theology of Hope with its "messianic" optimism became one of the most influential theological books of the second half of the century. A mere thirty years later, apocalyptic and even exterministic modes of eschatological thinking and feeling dominated the scene. The proclamation by the sciences of the definite finitude of the world has come as a cultural shock. In the face of the environmental crisis, the continuing surge of global poverty and the threat by an age of increasing conflict, scarcity, and despair, many people around the world look to a future without hope or joy. The hard facts of life have shocked many from a naive anthopocentrism wherein reality and reality's God exist to insure the fulfilment of the human project. A universe moving from Big Bang to Hot Death or Cosmic Crunch hardly seem to lend comfort to the human heart!

Human life is short. Even the span of human memory is short, when compared with the timescales over which science describes the evolving development of the universe and the changes and chances of terrestrial history placed within that cosmic story. The scientific account of this "story" is not merely retrospective but also prospective, for science can speak of future possibilities as well as past events. When it does so, the outlook is gloomy when considered over very long timescales. As we explain in the first part of this book, there are contingent hazards to life on earth arising from its potentially dangerous environment. There

are also absolutely certain catastrophes, such as the explosion of the sun and the collapse or decay of the universe, which cannot be averted.

While these destructive events lie far into the future, their influence on theological thinking cannot be ignored. One obvious reason is that they call into question any notion of an ultimate fulfilment brought about through the unfolding of present cosmic history alone. At best, we see a transient fruitfulness that leads to final futility, with the certain eventual disappearance of all life from the universe. These images of catastrophe feed cultural moods of nihilism and apocalyptic despair that are powerfully present in contemporary societies.

How should theologians respond to this eschatological mood and the scientific claims that often back it? Is the task of theology to offer consoling fantasies and thus to calm the human heart? Should theologians simply concede the scientific point, join the current mood, and thereby abandon all claims about God's involvement with and care for creation? If theology wants to avoid the judgement that eschatology is nothing but false consolation, a way of talking people into a vague hope for the future, then it has a threefold task:

- Theology will take the notions of finitude formulated by the natural and social sciences seriously. These notions are far from simple and they demand careful formulation. Theology must participate in testing their limits.
- Theology also will ask whether, and if so how, our cultural symbol systems resonate with the notions of finitude expressed by the sciences (for instance, in the talk about exterministic cultures or cultures of death), and it must examine the boundaries of these approaches.
- Above all, Christian theology will re-examine its views of hope, joy, the divine future, the new creation and eternal life. This will be undertaken not only in the light of the biblical traditions and the traditions of faith, but in a critical and self-critical dialogue with the social and natural sciences in their diagnoses of the finitude of the world.

In such a dialogue between science and theology, both sides should demonstrate their advocacy of truth, showing that this is not a simple task, but one has to contend with many vague and simplistic answers offered from both sides.

The topic of eschatology is of the utmost interest in a situation in which we experience a major shift in our worldview and in the set of values correlated with this worldview. It is

important to grasp the novelty of this situation. On the one hand, the eschatological mood of the day is often a response to the seeming insignificance of human puposes within the immense time-span of the universe. In this respect, human perceptions of time and evaluations of human destiny are being elongated. We readily speak of "billions of years"; school children are confronted with the pace of planetary history and its episodes of crisis and extinction. And yet, on the other hand, our age--the so-called postmodern age--is also marked by a compression of time, a shortening of our perception of the temporal flow of reality. While the physical sciences press us to expand our consciousness of time, recent cultural developments collapse time-consciousness back into the immidiate present. Many of the essays in this volume explore these surprising cultural developments and their meaning for eschatological beliefs and convictions.

In past decades a radically changed attitude toward the world has emerged with the spread of the electronic media, and especially in connection with the fast and global expansion of television and now the internet. The worldwide spread of television and the internet has been accompanied by a **depreciation of cultural memory**, of the hierarchy of the classics, the canonic and recourse to historical memory in the crises of the present moment. The new media bring with them an enormous inflation of a flow of data, constantly demanding fresh attention. The amount of concentration needed to grasp the world of today, and of the near future, increases enormously. The effective "habitation" and common "animation" of the past decreases drastically. The formula "dechronologization of the world and spatialization of the world"[3] has been used to grasp this process.

Cultivation of cultural memory is displaced by the reinforced and demanding collective attention paid to the present and the near future. This necessary attention to the present and the near future is accompanied by a constant excitement. It conceals the fact that the displacement of a common remembrance and cultural memory leads to a "cooling-down" of human life together. Jan Assmann, the renowned Heidelberg Egyptologist, has developed insights of Claude Lévi-Strauss's by distinguishing between "hot" and "cold" memory. Cold memory deprives events of their singularity and extraordinariness. It deprives events, and the community affected by them or ascribing them to itself, of their power to form history. Thus it also weakens the potential to nourish hope, to build complex common expectations, and to

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3 See David Harvey, The Condition of Postmodernity: An Inquiry Into the Origin of Cultural Change, Blackwell Publishers: Oxford 1990.

live in the perseverantia sanctorum. The current media and market stimulate cold memory in abundance. The abundance of memories, the manner of their presentation, and the dominance of attention to today and tomorrow, provide for a constant cooling-down of life and remembrance. Long-term expectations and hopes are cut off.

A second devaluation of cultural memory reinforces and accelerates the first and is itself reciprocally reinforced by it. The presentation of the world through the media radically questions the naive "unity of history" and the naive "unity of the life world" (Lebenswelt). The otherness, indeed foreignness, of the forms of life, of the ideas of wholeness, and of the recourse to tradition in other areas of the world becomes manifest each and every day. This leads to broken and distanced attitudes toward one's own history and life world. Sensitization through the mass media to foreign life worlds and traditions not only changes relations to the world. It also brings with it a sensitization of people to the differences of the various life worlds and traditions in one's own culture. It intensifies the tendency to pluralism. This more differentiated and more complex view of the world demands a new orientation. It no longer seems advisable to grant one's own tradition and one's own classics a monopoly in that orientation. Insecurity, experiments with one's identity, caution in self-commitment, weak links with any form of one's cultural heritage, appear desirable ways of life. If a memory is cultivated at all, then let it be as cold as possible!

This change in mentality has an effect on many other cultural phenomena. The cultural evaluation of the old and young changes. The complex world with its quickly changing "today and tomorrow" does not demand wisdom, maturity and self-possession. It demands the power to grasp things quickly and an intelligence that is able to attune and change. The "Old World" is left to specialists and museums. The real world belongs to young people. The concept of education (Paidaia, Bildung) is changing. The educational ideal changes from accumulating and cultivating ordered knowledge to selecting knowledge according to situation and function. We have reached a stage where the expectations of kindergarten and elementary school that children learn something by heart seem to amount to molestation, almost like bodily injury! Flexibility of attention must not be disturbed by fixed remembrance and memory. All these factors add greatly to processes of individuization (not to be confused with individualization in the sense of building personality!), under which current western cultures suffer greatly. Finally, this cultural stress is strengthened and heightened by an exterministic mentality, that is fueled by the insight of the sciences, that not only humankind and this earth

but also the universe itself are doomed to final decay.

Our point is not to celebrate some golden past when cultural memories were strong, education uniformly attained, and wisdom the expected product of age. Such a time has never existed. Past ages, cultural memories, have been at best been ambiguous, often marked by tyranny, ignorance, violence and want. And too often in our own day cultural memories are hot as one ethnic group violently rages against another. The point we are making, then, is that current cultural developments alter experiences of time and thus necessarily bear on theological claims about eschatological realities.

If this cultural analysis is in some measure correct, then theology has to find an eschatological approach that takes the meaning of common and individual history very seriously. Theology must not idolize those histories, foster merely new tribal mentalities, nor revive the grandiose ideology of "universal history". Theology must come to grips with a reality which resists the effects of a media culture and its drive toward a world where experience and imagination become indistinguishable. In this attempt to be truthful to the earth and, at the same time, to live up to a reality which is not of the earth, the critical and self-critical dialogue with the sciences becomes crucial. A realistic theology is at stake, a theology which distinguishes its task clearly from entertainment or easy consolation. The dialogue between theology and science is by no means a luxury, but a crucial task in a time in which (and not for the first time in cultural history, either) the historical world view crumbles. A critical and self-critical realistic theology should not shun, but rather seek dialogue with the sciences.

For this enterprise the topic of eschatology is a most suitable one. It will help clarify and cultivate the difference between truth claims in both fields. It enables us to formulate our eschatological truth claims in the face of the finitude of the world. It challenges us to work on a clear differentiation between the sustenance of the world and the new creation: to differentiate between infinity and eternity, between the mere totality of times and the eschatological fullness, and between the different types of hope related to one or the other. The capacity of the theme "eschatology" to spark inquiry into the conjunction of natural and cultural realities has shaped the very structure of this volume.

Perspectives Beyond Transient Life and Universe: The Ground of Dignity and Realistic

Hope

Together, these scientific and cultural developments pose powerful questions to theology. What are the true purposes of the Creator of such a world of change and decay? What ends are being brought about within it by the divine purpose? Should there not be an unflinching recognition that despair is the real foundation for human thought about the future, bringing about the end of belief in the Christian God of hope, with Shiva the Destroyer the only honest possibility for a replacement?

Certain common stances underlie the variety of the approaches set out in this volume. One is belief in a tempered rationality and in a critical realism, both in science and in theology. Both disciplines are seen as seeking to grasp and understand reality, to speak of what is the case, within the limitations of human ability. (We print as an Appendix some further discussion of this point, derived from a paper presented to the group by Hans Weder.) It is precisely this common trust in reality, and belief that its nature is not wholly hidden from us, that give rise to the possibility of a fruitful interaction between science and theology. A number of specific consequences follow from this realist position and are particularly significant for the discussion of eschatological themes.

A second common stance, already noticed, is the commitment to give a thick, many-layered account of reality. An over-simplified reductionism, whether of scientific or fideistic kind, is scrupulously to be avoided. Many forms of discourse will be needed to match the richness of reality, with poetry, metaphor, and symbol playing an indispensable role alongside more prosaic forms of expression. It will also be necessary to do full justice to the profoundly relational character of reality, particularly in connection with an understanding of the person as being much more than an isolated individual. A highly significant aspect of an adequately thick account will be the subtlety and power of the interrelationship of past and present, together with a proper recognition of the richly textured character of the nature of human temporal experience. Another important recognition is that of the reality of death. Christian thinking does not seek to diminish the bleakness and stripped-down character of this depth experience. After all, at the heart of Christianity lies the cross of the crucified Christ.

Scientific prognosis puts to theology the question of whether it is not, in fact, ultimate (and perhaps, defiant) despair that is the appropriate human attitude to the world in which we live.

Theology's response is to replace despair with hope and joy. Perhaps one of the most innovating developments to arise out of the dialogue, documented in this book, is the possibility of two distinct, and yet, related theological responses to ultimate despair. Some theologians among us understand the most appropriate response to our age to be rooted in joy, a profound acceptance and gratitude for life in all of its limitation and fragility. For these theologians the challenge of our age, with its confusing eschatological mood, strikes to the very core of Christian conviction. At issue is whether or not and to what extent Christians can and may and must say "yes" to a reality we now know scientifically to be destined for ultimate futility? Does the radical displacement of human purposes from the center of an account of reality count against belief in a loving God? For these theologians, the radicality of this challenge has required a shift in focus from the "theology of hope" to explore the meaning, truth, and practical significance of a realistic joy completely mindful of the finitude of the world and of human life.

Other theologians among us continue the important legacy of the theology of hope. For these thinkers it has been crucial to insist that hope is very different from optimism. Its basis is neither wishful fantasy nor calculated prediction. Instead, its basis is trust in the everlasting faithfulness of the living and eternal God. This is the only reality that can be set against the reality of the scientific predictions of catastrophe. Theology does not deny these predictions, but it transcends them. Christian hope is not a consoling fantasy that somehow death is an illusion. Death is real, but death is not ultimate. Only God is ultimate. The Christian hope is death and resurrection, not merely spiritual survival.

At the heart of that hope is of course belief in the resurrection of Jesus Christ. In the experiences of the first witnesses, the resurrection had both an objective dimension (moment of recognition, even touching and offering food) and a subjective dimension (hearts warmed and heavenly light shining forth, the conviction that Jesus lives). It had both an individual dimension (it is the crucified Jesus who is risen, still with the scars of the passion) and a collective dimension (believers are incorporated into the body of Christ and they have the role of the witnessing community).

These responses to the current eschatological mood and its undercurrent of despair are in fruitful conversation throughout this book. Yet each addresses the strange logic of eschatology--the connection of continuity/disconinuity noted above--in its own way. Among

theologians of hope, faithful existence always involves a degree of tension between the already and the not yet: present experience of life transformed in quality and depth, and future expectation of life beyond death in which there is neither sighing nor sorrow any more. For theologians who explore the theme of realistic eschatological joy, the tension of faithful existence is between joy in God's continual presence and governance and the radical discontinuity between being and nothingness science seems to predict as the fate of our universe. Different Christian thinkers have, from the first, struck the balance between continuity and discontinuity in different ways and with different religious foci. This diversity and its complementarity is happily reflected in the essays that follow.

The strongest theme to emerge from all our discussion, and one that is widely reflected upon in our writings, is the need to wrestle with the need for both continuity and discontinuity in any adequate account of eschatology. Take the example of personal identity. Too great an element of discontinuity would threaten the trust that it is "Abraham, Isaac, and Jacob" (and not some new persons bearing those names) who live with God. It must be that each generation will attain to fulfilment, never merely serving as a stepping stone to the future of others, and that those whose lives have been cut short by oppression and violence receive what was denied to them on earth. Yet, too great an element of continuity would threaten belief in the new creation, redeemed from the old creation's bondage to death and decay. Insights are offered in this book into how we might try to think of this continuous/discontinuous relationship of the new creation to the old creation. Attention may be drawn to some of the ideas discussed.

A revival of the notion (as old as Aristotle and Thomas Aquinas) of the soul as the form (information bearing pattern) of the body, may offer a credible concept serving to carry across identity from the life of this world to the life of the world to come. If it is intrinsic for human beings to be embodied in some form (so that resurrection, rather than spiritual survival, is the Christian hope), then it may be that they are intrinsically temporal beings. If that is so, the life of the new creation will have its own new time and its own new, salvific process. Judgment will then involve a coming to terms with the reality of ourselves, and a purgation of what we are in order to become what God wills us to be. Fulfilment will not happen in a timeless moment of illumination but through an everlasting exploration of the riches of the divine nature, an experience that may be characterised as our entering into "eschatological joy".

Necessarily, accounts of human destiny post mortem, have a degree of speculation about them. Some people might think: the best answer to too much eschatological curiosity about details is to say, "Wait and see!" The writers of this book share a common trust in a faithful Creator, a merciful Redeemer, and a sanctifying Spirit. They believe that it is of the highest importance that the Christians and the Christian church should not lose nerve in witnessing to our generation about the eschatological hope that is set before us. They offer this book as a resource toward that end.

Acknowledgements

The work of our group falls naturally into the four sections that follow, concerned with approaches to eschatological themes deriving respectively from the natural sciences, the social sciences, biblical studies, and systematic theology.

1. Concepts from Science: Catastrophes and Endtimes
2. Cultural Contexts: The Shaping of Life and Eschatological Thought
3. Biblical Traditions: Themes of the Endtime
4. Theological Insights: Realistic Eschatology and Eternal Life

Such a division is of course a presentational convenience; it should not be mistaken for a compartmentalised treatment. Readers will see that the writers in each section draw also upon the insights and concerns expressed in the other parts of our volume. This genuine interdisciplinarity is something that we all value greatly and wish to offer to a wider public.

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As the project was nearing completion, a significant conference on its theme was held at the

Internationales Wissenschaftsforum, Heidelberg. In addition to the regular participants in the consultation and to those contributing to this volume, there were present also Werner Bestgen, Sigrid Brandt, Gregor Etzelmüller, Dirk Evers, Klaus Fricke, Ralf Frisch, Michael Hampe, Hubert Meisinger, Bernd Oberdorfer, Andreas Schüle, and Günter Thomas. We are most grateful to them for their contributions that helped to make the conference so stimulating, and to the Internationales Wissenschaftsforum and the Volkswagen-Stiftung, whose generous financial support made it possible.

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