

Time & Eternity

Antje Jackelén

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The Question of Time in Church,
Science, and Theology



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To my teachers and my students

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Preface to the English Edition

Even when one has a lot of support, there is still a long journey from a book published in German to a readable English text. Translation is often not acknowledged as the art it really is. I am aware that the use of several languages and terminology from hymnody, theology, physics and philosophy increased the challenge in this case. I want to express my gratitude to all who have contributed to this edition.

Special thanks to the Templeton Foundation Press, especially Laura Barrett and Joanna Hill, for making the translation possible and for guiding the project toward completion; April Wilson, Chicago, for her impressive perseverance in editing text, quotes and references; Professor Neil Spurway, Glasgow, for his thoughtful comments on the whole text; Professors John Albright, Mark Bangert, Ralph Klein and Audrey West, Chicago, and Dr. Stefan Vogt, Argonne National Laboratory, for their helpful suggestions on parts of the text.

Now it is up to the reader to judge the result. It is my hope that both the poetry and the prose as well as the sober figures in some places will be enjoyable enough to nourish both interest and insights into a theme that continues to captivate almost everyone's imagination.

I dedicate this book to those who taught and mentored me and to those who keep the challenge of teaching and learning alive—i.e., to my teachers and my students.

Chicago, February 2005

Preface to the German Edition

The aim of this book is to explore the possibilities of relationally determined and eschatologically qualified concepts of time and eternity. By doing this, I would like to contribute to the dialogue between theology and science, as well as to an appropriate theology of time.

This study is based on a doctoral dissertation which I submitted to the Theological Faculty of the University of Lund, Sweden. I have revised the text for publication. In the course of working with the topic of *time*, the concept of *relation* became increasingly important to me. Yet, it was not only the word itself that revealed its significance for my project; diverse real relations also made major impacts on its progress. Without a rich relational tapestry of human and academic contacts, this book would never have been completed.

For multiple support, advice, and help, I would here like to express my heartfelt thanks to: Bishops Krister Stendahl and KG Hammar, for their encouragement to begin a doctoral study program while being in parish ministry; Professor Werner G. Jeanron of Lund, for his good and decisive advice during the writing of the dissertation; hymnologist Elisabet Wentz-Janacek of Lund, for her stimulating ideas and suggestions for the first chapter; Professor Gösta Gustafson of Lund, for his critical reading of the chapter on science; Professor Jürgen Hübner of Heidelberg, for many helpful discussions and access to the library of the Forschungsstätte der Evangelischen Studiengemeinschaft (FESSt); Rev. Dr. Wolfgang Achtner, Giessen, for valuable perspectives on the entire study; Professor Michael Welker of Heidelberg, for making an exchange of ideas with other academics possible;

Professor Rainer Zimmermann of Munich, for reactions and comments, particularly with regard to the third chapter; my colleagues in the systematic theology doctoral seminar at the University of Lund, as well as Lund professors Gösta Hallonsten, Manfred Hofmann, and Rune Söderlund for numerous interesting discussions; Professor Ulf Görman, Rev. Dr. Charlotte Methuen, and all colleagues and friends in the *European Society for the Study of Science and Theology* (ESSSAT) who offered stimulating suggestions and advice; the Neukirchener Verlag, especially Mr. Starke and Mr. Hegner, for publishing this book; Joanna Jackelén, for the proofreading and layout; the IT team of the Lutheran School of Theology at Chicago, for assistance in resolving conflicts between German, Swedish, and American computer cultures; my parents, Marianne and Werner Zöllner, for their manifold support during the entire project; my husband Heinz and our daughters, Joanna and Andrea, for their understanding and occasional—but usually beneficial—lack of understanding; and, finally, also those dialogue partners outside of the university who followed the development of this study with sympathy and enthusiasm. Their questions often forced me to reformulate my thoughts in a more generally intelligible manner. They also continually made it clear to me that the topic of time is captivating and fascinating—and that the discussion of time will probably never come to an end.

A. J.
Chicago, December 2001

Time & Eternity

Abbreviations

<i>AHB</i>	<i>Australian Hymn Book with Catholic Supplement</i>
Cor.	Corinthians
Dan.	Daniel
Deut.	Deuteronomy
Eccles.	Ecclesiastes
<i>EG</i>	<i>Evangelische Gesangbuch</i> (1995 ed.)
<i>EG1996</i>	<i>Evangelische Gesangbuch</i> (1996 ed.)
Eph.	Ephesians
Exod.	Exodus
Gal.	Galatians
Gen.	Genesis
<i>GL</i>	<i>Gotteslob</i>
Isa.	Isaiah
Macc.	Maccabees
NRSV	New Revised Standard Version of the Bible
Pet.	Peter
Phil.	Philemon
Ps.	Psalms
<i>Ps90</i>	<i>Psalmer i 90-talet</i>
Rev.	Revelation
Rom.	Romans
<i>SA</i>	<i>Sing Alleluia. A Supplement to the Australian Hymn Book</i>
<i>Sv ps</i>	<i>Den Svenska Psalmboken</i> (1986 ed.)
<i>Svps1937</i>	<i>Den Svenska Psalmboken</i> (1937 ed.)
Thess.	Thessalonians

Introduction and Hermeneutical Approach



This study deals with the relationship between faith and knowledge, between natural science and theology. There are essentially two different methods for dealing with this subject. On the one hand, there is the path of principle discourse, in which the presuppositions and methods of science and theology are compared to each other and brought into dialogue—preferably with the mediation of philosophy. On the other hand, there is also the possibility of allowing science and theology to enter into a dialogue on one specific topic.

In this study, I have decided on the second alternative. My purpose is to bring concrete theological symbol systems—and not theology per se—together with science, and then to see what happens.

I have selected time as the subject of my study. The question of time appears to represent an inexhaustible topic. Augustine's often-quoted remark from the eleventh book of the *Confessions*—that if no one asks him what time is, he knows, but if he wants to explain it to someone who asks, he does not know—seems to be valid even today. In spite of the lack of a clear and definitive definition of time, theologians and natural scientists often treat time as if such a definition had been given once and for all. Nevertheless, the concept of time that a person holds due to his or her profession can be considerably different from the concept of time that the same person has in all other aspects of life. The relevance of the subject of time can also be seen, not least of all, in the amount of literature currently being published

on this topic (e.g., Achnter, Davies, Fagg, Gimmler, Sandbothe and Zimmerli, Gronemeyer, Mainzer, Reheis, Weis).

The question of time is important for theology because the conception of time has consequences for a large number of theological topics, not only for the entire field of eschatology, but also for the concepts of God, the understanding of the Incarnation, and numerous other fields. To be sure, theologians have considered the concept of time again and again, but they have done so primarily in the language of metaphysics. My study will take a different path. Fundamentally, I will proceed from the observation that, up until now, theological reflection has not dealt very explicitly with twentieth-century theories of physics. It is therefore quite possible that theological reflection has overlooked crucial insights.

This hypothesis and the decision to begin not with philosophy, but rather with concrete symbol systems, have also influenced the contents of my study and my methods of working. Stimulated by Paul Ricoeur's thesis that appropriate talk of time must be conveyed by narrative, I will start by searching for "narrated time" in chapter 1 in order to approach a theological concept of time. My quest will lead to the quantitative and qualitative analyses of German-, English-, and Swedish-language hymns. For example, the texts of the hymns are examined with respect to what they have to say about the relationship between God and time, about eternity, about the future, and about the relationship of human beings to time.

Chapter 2 begins with the concept of time in the Bible. In a critical discussion, primarily of Gerhard von Rad's work, I cast doubt upon the distinction between linear and cyclical time, arguing that it is oversimplified. The notion that an appropriate concept of time must be relationally shaped takes form at this point—in agreement with Carl Heinz Ratschow. This means that, when choosing between a definition of time and a description of it in terms of relationships, I give preference to the examination of relations. Along with Ingolf U. Dalferth, I argue against a static and dualistic concept of time that declares God and time, and time and eternity, to be fixed pairs of opposites. With the aid of three distinct models for differentiating the relation of time to eternity, I will attempt to approach a dynamic and relational concept of time. I will explain the three distinct models—the quantitative, the ontological, and the eschatological—by using the theological concepts of time of Oscar Cullmann and Augustine, as well as those of Karl Rahner and Wolfhart Pannenberg.

A dynamically and relationally shaped concept of time suggests the inclusion of the Trinitarian concept of God. I will discuss the strengths and weaknesses of the connection between time and the Trinity in a dialogue with Dalferth, Pannenberg, and Karl-Josef Kuschel. The second chapter

concludes with an analysis of death within the perspective of a theology of time, which is oriented primarily toward the theologians Eberhard Jüngel and Werner G. Jeanron, as well as the sociologist Zygmunt Bauman. The analysis concentrates primarily on two points of view: “eternalized time and eroded eternity,” on the one hand, and “irrelevant eternity and dead time,” on the other. A summarizing preliminary appraisal describes the relationship of time and eternity by characterizing eternity as “the other” of time. This is done independently of, but nevertheless in general agreement with, Emmanuel Lévinas.

Following a brief introduction to the problems of the dialogue between science and theology, in chapter 3 I deal with the theories of physics that are most important for an understanding of time. The first major topic in this chapter is the concept of absolute time, as it is found in Isaac Newton’s works and in the correspondence between Gottfried Wilhelm Leibniz and Samuel Clarke—no doubt shaped by theological influences. “Dualisms” and “deism” are the summarizing concepts of this section. An examination of Einstein’s theories of relativity follows; this then leads to a discussion of the independence of time. After considering the question of how quantum physics deals with time, I discuss the role of language in its relationship to physical reality, primarily using texts by Werner Heisenberg and Niels Bohr.

Then, after considering the very fast (theories of relativity) and the very small (quantum physics), my study turns to the very large, namely, to cosmological perspectives, to singularities and black holes, to the limits of time and space. From thermodynamics and research on chaos theory, the question of the directedness of time has gained new force. Can thermodynamics prove the irreversibility of time? Does chaos research necessarily reduce the determinism of a natural occurrence or, conversely, does it lead determinism to new triumphs?

Some summarizing reflections lead up to the fourth and final chapter. From the critical examination of physics theories, I conclude that the most appropriate understanding of time is as a relational and diverse phenomenon. An adequate understanding of time is not limited to an analysis of single elements, but rather includes structures and relationships, being and becoming. It considers a temporal openness, the articulation of which must necessarily reach beyond physics.

The concluding chapter 4 summarizes the various aspects of a theology of time. This summary is in harmony with, but goes beyond, the discussion in the first three chapters. Following a deeper reflection on statics, dynamics, and relationality in the concept of time—with John Polkinghorne and Thomas F. Torrance as the most important dialogue partners—I continue the discussion of time and the Trinity that was begun in the second chapter.

Here I turn toward more recent theological thinking, which can be found, for example, in the works of Colin Gunton, Kevin Vanhoozer, Elizabeth Johnson, Robert Jenson, and Christoph Schwöbel. These concepts are instructive in elucidating the change or transition from substance to relation, but they have definite limitations regarding their ability to make a relational concept of time explicit. Eschatology proves to be a more productive key to a relational concept of time, and it receives much of my attention in the fourth chapter. The train of thought moves from the role of eschatology in theology through a discussion of scientific eschatologies as formulated by Frank J. Tipler and Freeman J. Dyson, and then to a reflection—especially inspired by Georg Picht—on the different modes of time in the light of eschatology.

As already discussed in the second chapter, the category of the new is indispensable for an eschatological concept of time. It brings up the question of the continuity and identity of a creature and of creation in both individual and cosmic perspectives. Does “a new heaven and a new earth” mean the destruction or the transformation of the old? And how can we comprehend the rhetoric of eternal life if death means radical discontinuity? The latter appears to make continuous identity impossible. In a critical discussion of Theodor Mählmann’s thought, I attempt to show how an exclusively linear-chronological concept of time necessarily makes the question of identity a question of continuity, whereas a relational concept of time proceeds from the notion of alterity, in which identity is primarily constituted by relationships, liberating the identity understood in this manner from its tie to chronological continuity. A window is thus opened into the heart of a relational theological concept of time: the tension between the already and the not-yet as the eschatological disruption of linear chronology.

Narrative, dynamics, alterity, openness, and eschatologically qualified relationality—these are the major aspects of a theology of time. Can a system, an applicable theology of time, be constructed from these elements? Within the framework of a critical acknowledgment of Jürgen Moltmann’s theology of time, I will clarify the problems that must be dealt with in any attempt to construct a theology of time. Accordingly, I believe a theology of time conceived as an abstract construct to be impossible; when formulated as a narrative about the relation to the other, however, I consider it to be a central concern of theological reflection.

Every evaluation of the possibilities for interdisciplinary dialogue is shaped by preconceptions regarding the presuppositions of communication and understanding. This naturally also applies to my study with regard to the question of time in Church, science, and theology. For this reason, let me say something here about the hermeneutical aspects of this study.¹ Es-

entially, there are two guiding principles that should be explained at this point, namely, *the self-evidence of the discussion* and *the desire for contact*.

The first principle grew out of my observation that this self-evidence is anything but self-evident! Rather, in many cases it must first be attained. This is especially true for the contact between theology and the natural sciences, for numerous difficulties are obvious here. The relationship between science and theology is greatly burdened with tensions and mistakes from the past; science basks in the glory of a spoiled baby in the lap of society, whereas theology, the once favorite child now abandoned, is still at times preoccupied with pitying itself and licking its wounds. It is readily supposed that physics belongs a priori in the most comfortable easy chair at the discussion table, possibly subjected to the malicious glares of biology and its related disciplines, who wish to compete for its position. Ethics then has the easiest time finding a place at the discussion table—it has become increasingly obvious that the self-sufficiency of science and technology was a deceptive myth. Philosophy should also easily qualify for a place at the table, despite occasional postmodern identity crises. For it, there is only the difficult question of which chair it should occupy—it can choose between the high-level meta-chair and a practical “observer chair.” At times, philosophy strives for the higher level, on which, in fortunate cases, antitheses are reconciled. At other times, it is supposed to determine the items on the agenda, or sometimes it monitors compliance with the points of order. But theology? Is anything left over for it other than a footstool? Frequently, it must begin by securing its place as self-evident in the discussion, which can equal a new “escape from self-inflicted immaturity.” In a certain sense, the Age of Enlightenment has never ended—and it never can. The conditions of rationality must be considered repeatedly, both critically and self-critically. This also requires clarification regarding which expectations can be linked to a dialogue.

I begin with the assumption that central theological contents can receive new illumination in dialogue. In the sense of a correlation theory,² I thereby presuppose two things for theology, namely, an awareness of one’s own limitations and an openness to the potential contribution of nontheological thought to the constructive work of the theologian. An increase in knowledge and insight is therefore attained not simply within the boundaries of one’s own discipline, but rather, to a large degree, precisely in dialogue with others.³ This dialogue deals with reciprocal, critical correlations.

This means, first, that I consider an uninvolved side-by-side existence unacceptable. Ethical problems in research and the full assessment of the consequences of technological innovations are only two examples of how the natural sciences are dependent upon a dialogue with other parties. From

the perspective of theology, the necessity for dialogue is grounded, among other things, in the theology of creation. That which, as nature, is the object of the so-called natural sciences is, as creation, also the object of theology. Even with all of their differences, the common ground shared by science and theology is large enough to be able to open up previously untapped opportunities for dialogue. The fact that, in this context, one can no more assume *a single* theology than one can assume *a single* natural science—but is rather confronted on both sides with various branches and perspectives—increases both the variety and the demands of dialogue.

Second, a justifiable expectation related to the dialogue can be seen in a spontaneous gain on the purely linguistic level. There is a constant need for new images, metaphors, and analogies in theological language. In this sense, one might hope to achieve from the dialogue a kind of linguistic alliance. This seems highly enticing, above all for theologians who strive for renewal of preaching. The transfer of scientific concepts such as complementarity and black holes to theological issues can initially appear to be refreshing. It can lead to elegant homiletic artifices that rightly elicit admiration because they can actually foster insights and generate new knowledge. However, homiletic functionality is something quite different from solid hermeneutical work. Even if there are nomadic concepts⁴ that circulate quite freely among different branches of science, all of these crossovers require caution. Rash borrowing or incorporation is a risk not only for theology; other disciplines are also subject to the danger of using theological concepts indiscriminately. Newton's concept of God is not at all identical to the concepts of God that are used in early twenty-first-century theology.

For this reason, thirdly, one is warned against quick conclusions and premature attempts at harmonization. The obvious goal of dialogue is not synthesis; rather, it initially concerns the clarifying process. Alterity and differences should be respected. The most impressive syntheses justifiably elicit mistrust, for they can easily develop totalitarian and dictatorial tendencies. There can be no talk of a new "marriage" between science and theology, as was the case, for example, during Newton's time. In this context, apologetics in the traditional sense is also a poor adviser. A certain dualism or pluralism, in which two or more perspectives of the same reality complement, antagonize, and perhaps also correct each other, is preferable. From time to time, the most basic task of the dialogue may be to expose a conflict. Beneficial tension, eutonia, is a more worthwhile goal than a great synthesis, at least as long as the *unio mystica* remains unattainable.

I thus come to my second hermeneutical principle, the desire for contact. It is linked to the fact that theoretical agreement—even if it were possible to reach perfection in this respect—would not suffice as the only goal.

One must also always be concerned with practical social life, and life is not livable without contact.

Both science and theology speak of infinity and of space and time as dimensions of reality. With which goal, from which ascribed meaning, do they do this? In this world, people search in wretched places for edible trash just to stay alive—how then can one speak of infinity? People have accidents, die, and suddenly no longer come home to dinner—how then can one speak of a continuum of curved space-time? People cannot speak properly of infinity, either theologically or scientifically, without touching upon the finite nature of existence and allowing it to touch them. For the physicist, the discovery of relative time may have meant an intellectual revolution; for the mother and father who have no food for their children, time has always been relative to the space they have at their disposal.⁵ In the case of theologians and cosmologists who sympathize with the Anthropic Cosmological Principle, the question of why something exists at all—and is not just nothing—may provoke enthusiasm for the world and its origins; for slum-dwellers, however, the question of why almost nothing of all that exists is in their home evokes despair of the world.

This means that one cannot limit oneself to the securing of the self-evident. The desire for contact must follow. Neither science nor theology can or may work in a vacuum. Both need the desire for contact. Constructs of ideas created in a clinically clean atmosphere are just as deficient as particle tests in a sterile testing facility if the knowledge is not brought into contact with the lives of those for whom these ideas and experiments were (supposedly) made and who are affected by their consequences. Contact in this case means two things, namely, to contact and to be contacted, to touch and to be touched.

Various fears of contact follow closely on the heels of the desire to make contact. Such fears emerge because, during contact, boundaries are transgressed or even shifted; and this causes insecurity about where the boundaries are actually located. So much theological work has been exhausted in the discussion of where boundaries should properly be drawn—so that there was then no more strength or interest for making contact and for crossing boundaries. Yet the God who was witnessed to in the Bible was decisively concerned with making contact and crossing boundaries. It was not only the Christology of the early church that had problems with God's crossing of boundaries. A lot of effort was expended before the achievement of the Chalcedonian formulations, which can be understood as an attempt to conceive relatedness and diversity in dynamic unity. Also in the theological concept of *communicatio idiomatum*, one finds the attempt to structure conceptually the meeting of differences. In the attempt to conceptualize re-

lation and difference together, then, one is not dealing with a structure of thought that is new to the history of theology.

The primary concern need not necessarily be to eliminate the fears of contact to the greatest degree possible, but rather to live with the tension that is created by these fears. Theological reflection is challenged to be a theology of contact beyond and at the point of boundaries, regardless of whether they are the boundaries between God and humankind, between human beings themselves, or between human beings and nature. This means conflict and even a questioning of one's own self-understanding. Here, one's own identity is more a constant task than the unchallenged starting point. The fear of loss is offset by the awareness of new possibilities. In the words of David Tracy: "Conversation in its primary form is an exploration of possibilities in the search for truth. In following the track of any question, we must allow for difference and otherness. . . . Otherness and difference can become, however, genuine possibility: the *as* other, the *as* different becomes the *as* possible."⁶

In this context, I wish to emphasize especially two tasks of theology, namely, criticism of reductionism and advocacy for public dialogue. Criticism of reductionism is appropriate, first of all, where theology reduces itself and retreats into itself, regardless of whether this is done for elitist reasons or due to a lack of trust in its own competence. Such criticism is also appropriate whenever a person elevates himself or herself and proclaims a self-confident "nothing but." In this respect, reductionism in the presentation of research results is frequently easier to expose than the initial reductionism that, through the selection of material and methods, often incorporates a narrowness into the entire process that is seldom accounted for. The satisfaction of having formulated something exclusively superior is thereby bought with a more or less violent reduction of the starting material. Scholars of the humanities and the natural sciences are both subject to these risks. The more or less successful singling out of the thing *per se* is neither the only, nor always the best, path to knowledge. Shifting emphasis from definitions to relations can lead to significant gains in insight and knowledge.

The advocacy for public dialogue belongs to the correlative method.⁷ In this role, theology also attempts to maintain continuity in the public dialogue. To consistently oppose the slide into the private sphere at the expense of public dialogue can at times be a terribly difficult undertaking; in several places—certainly at least in part as a reaction to an objectivism that is felt to be inflexible and rigid—a subjectivism, increasingly getting out of hand, thinks it is justified in and of itself and that it need not necessarily be responsible to any forum of public truth.