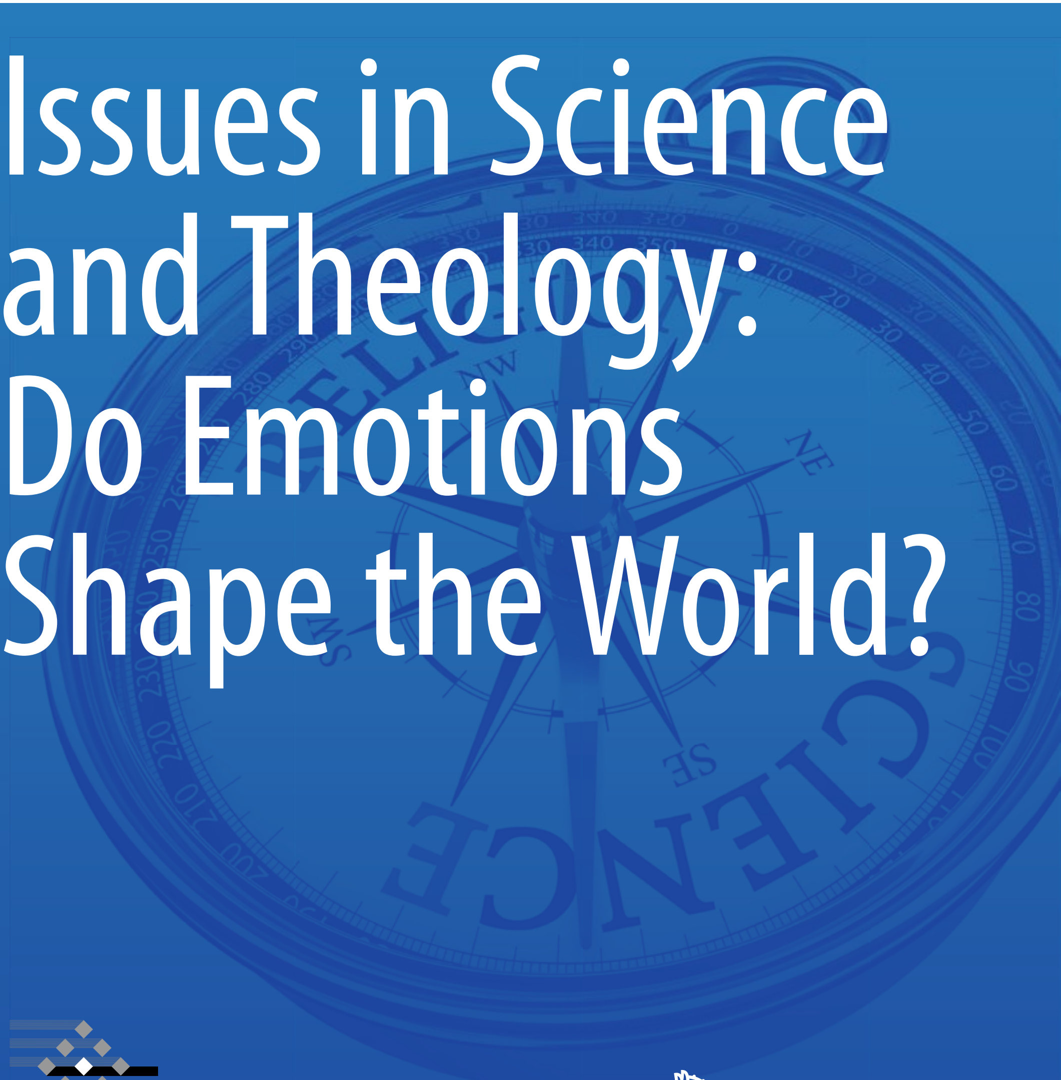
Issues in Science and Religion: Publications of the European Society for the Study of Science and Theology

Dirk Evers
Michael Fuller
Anne Runehov
Knut-Willy Sæther *Editors*

# Issues in Science and Theology: Do Emotions Shape the World?



ESSSAT

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Anne Runehov • Knut-Willy Sæther
Editors

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# Foreword

From 30 April to 4 May 2014, ESSSAT, the *European Society for the Study of Science and Theology*, arranged the Fifteenth *European Conference on Science and Theology* (ECST XV) in Assisi, Italy, in collaboration with the *Pontifical University Antonianum* (Rome), *Perugia University* and the *Pontifical Council of Culture*. Over 100 participants from Europe and beyond were attracted by the conference, and ESSSAT members and other conference participants alike were inspired to present and discuss about 70 papers in the conference's paper sessions. ESSSAT's conferences thus continue to promote the study of the interactions of science and theology by creating opportunities for scholars from a wide diversity of backgrounds, geographically and linguistically, and from different disciplines and confessions to engage in conversation and debate. The theme of the conference was *Do Emotions Shape the World?*, and it was approached from a number of different perspectives, including neuroscience, psychology, philosophy, technology and theology. The plenary lectures of the conference covered a broad spectrum of disciplines and approaches and are printed in this volume in revised and edited versions. In addition, the editors chose a selection of short papers presented at the conference and thus composed this volume of *Issues in Science and Religion* (ISR).

As ESSSAT's President, it is my pleasure and duty to take the opportunity of the publication of this issue to thank organisers and sponsors of the conference. ESSSAT expresses its gratitude to the local organiser Lluis Oviedo (ESSSAT Vice-President for the conference) and his team from the *Pontifical University Antonianum* (Rome). Other members of the organising committee were Antje Jackelén (ESSSAT President), Lotta Knutsson Bråkenhielm (ESSSAT Secretary), Knut-Willy Sæther (Scientific Programme Officer) and the late Chris Wiltsher (ESSSAT Treasurer). Thanks go to the *Sacro Convento di Assisi*, which helped pay for the simultaneous translation of the public lecture. We express our deep gratitude to the *Udo Keller Foundation – Forum humanum*, Neversdorf (Germany), which again supported the ESSSAT prizes. Finally we thank the staff from Springer and especially Cristina dos Santos for their cooperation on this volume, now the ninth of the old and the second of the new series.

Wittenberg, Germany Dirk Evers

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# Chapter 1
# Introduction

**Michael Fuller**

It is, perhaps, as difficult to define ‘emotion’ as it is to offer succinct understandings of what we mean by ‘science’ and ‘theology’. It is therefore an important strength of a symposium such as this that the papers brought together herein enable a multi-perspective view to be taken, in which the juxtaposition of a rich variety of understandings can mutually shed light on one another.

Some structuring of the material in this book has been undertaken, in grouping papers together under four headings. The first section contains papers in which authors address issues around the importance of emotions, and emotional well-being, in living a healthy life.

Pehr Granqvist begins with the observation that there is no such thing as religion without emotion. In exploring the origins of emotion, he draws on the Attachment theory of John Bowlby and Mary Ainsworth, noting that the way in which humans form bonds throughout their lives is intertwined with the development of emotions of various kinds. He explores the ways in which belief in God can be related to attachment theory (with God being seen as ‘an absolutely adequate attachment-figure’), and the psychological power of the idea of a God who loves each individual unconditionally, no matter what they have done. He cautions against seeing such an idea as in some way ‘infantilising’ religion, since our forming attachments to others (or to God) is a ‘cradle to grave’ aspect of our lives. Still less should this approach be taken to lead to any conclusion about the existence (or otherwise) of God. Nevertheless, Granqvist maintains, it is clear that emotions do shape the world, not least for the religious believer.

Rita Brock examines the research which has been carried out on Post-Traumatic Stress Disorder (PTSD) and moral injury in US army veterans (moral injury being the disruption of an individual’s deeply-held values caused by their encountering

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situations violating their sense of ethics, or of justice). Emotions faced by these veterans include anger, anxiety, grief, shame, guilt and contrition. Brock observes that Western Christianity developed in mediaeval times a soteriology that might be seen to sanctify suffering, not least suffering in war; and she urges that this is unhelpful in comparison with earlier theologies of atonement, which focussed more on repentance, reconciliation and rehabilitation. Formal systems of penance acted as a 'ritual quarantine system', benefitting both those who were expiating their transgressions and the community which supported them in their doing so. This, Brock urges, offers a more effective model within which to engage with the treatment of PTSD and moral injury than the emphasis on redemptive suffering found in mediaeval Christianity, and perpetuated in some forms of Western Christianity today.

Marjorie Hall Davis and Karl E. Peters also explore some therapeutic aspects of religion in its relation to emotions. They look at the reciprocal fashion in which the world we inhabit shapes our emotions, whilst those emotions in turn shape the world we inhabit: they describe some of the factors that are involved with the expression of empathy; and they explore Christian Keyser's work looking at manifestations of psychopathy (see also Keysers' own paper in this volume). Davis and Peters describe practices which can shape our emotions, such as meditation and prayer, which are found in both Western and Eastern religious traditions. They offer some examples drawn from the practice of Internal Family Therapy to illustrate the impact of individuals' emotional states on their lives. Their paper serves to illustrate the complex interplay between individuals and their environments, and the role played by emotions in that interplay.

The remaining papers in this section focus on particular emotions, and illustrate admirably three contrasting approaches which may be taken to thinking about emotion: scientific, theological and philosophical.

Maria Weker looks at smiling, which may often be considered to be a spontaneous expression of emotion, and which appears to be something which all humans do regardless of their cultural context. It can indicate joy and happiness: it can aid social interactions; and it may have had a role to play in the development of spoken languages. Smiling has been analysed by researchers from Darwin onwards, and this has allowed distinctions to be made between genuine and false smiles. It has been observed that these use different muscles, controlled by different parts of our brains. What does our capacity to feign pleasure or enjoyment say about ourselves? And how is it that we are often able to distinguish automatically between false and genuine smiles? Is this a faculty we have evolved, or might it be said to be something which is in some sense God-given?

Chris Southgate takes a theological approach in his exploration of the emotion of longing. He traces expressions and analyses of longing in authors from Plato, through Biblical and patristic authors, to Dante, Darwin, Freud and writers in the present day. He notes that the idea of *divine* longing may be discerned in some of these writings. He contrasts longing, as it is found in both religious and secular authors, with desire, concluding that 'authentic human longing is oriented by being conformed to God's longing'.

Anne Runehov looks at different understandings of compassion, exploring two extreme views which see compassion as an irrational distraction on the one hand, or an important foundation of ethical behaviour on the other. She surveys philosophical approaches to compassion from classical to modern times, and raises the important question: does the expression of compassion towards a person uphold or undermine the dignity of that person?

These three papers serve as springboards into each of the three remaining sections of this book, which are devoted to the pursuit of scientific, theological and philosophical perspectives on emotions. The second section explores some recent work on emotions from a scientific point of view. Christian Keysers and Valeria Gazzola survey recent work using functional Magnetic Resonance Imaging to examine the operation of mirror neurons – those neurons which fire in response to an individual's seeing the actions or emotions of others. They note that 'A whole body of evidence now suggests that we … vicariously activate brain regions involved in our own emotions while we witness the emotions of others'. This offers a fascinating new perspective on human empathy. Keysers and Gazzola note that mirror neuron activity is absent in psychopathic subjects, although it can be 'switched on' if the subject is explicitly told to think in an empathetic way: what is missing in such individuals would appear to be the automatic propensity, rather than the innate ability, to feel the emotions of others. They conclude by suggesting that religions, which tend to endorse moral codes promoting empathy (such as the 'golden rule'), give a competitive advantage to cultures which espouse them.

Indrek Peedu notes the significant ways in which the concepts and definitions used by the Cognitive Science of Religion (CSR) have shaped the formation and development of that discipline. He compares and contrasts classic CSR ideas, such as those which stress the importance of counterintuitive ideas, and of perceptions of agency, with another evolutionary approach to explaining religious behaviour: the 'costly signalling' theory of religion, which maintains that the commitment involved in engaging with religious practices is a way of signalling trustworthiness. Emotions, in the latter context, are seen to be 'reliable and honest' indicators, hence enhancing an individual's trustworthiness. Peedu concludes that CSR approaches, which are 'based on one specific combination of conceptual and empirical tools', are but one among many possibilities for understanding religious belief. They cannot claim any epistemological superiority over other approaches which use alternative tools.

The paper by Margaret Boone Rappaport and Christopher Corbally offers some interesting speculations regarding the involvement of emotion in rational decision-making in early hominins, proposing that 'human sentience is an evolved, complex adaptive capacity that is cognitive, but … based on specific perceptual and emotional features, too'. They offer an imaginative reconstruction of such involvement in the form of a short drama, developed as part of a project investigating human sentience, and urge that rational decision-making must take account of the emotional, social and religious context in which it is undertaken.

Angela Roothaan returns us from speculations about human prehistory to the practicalities of the present day. She looks at the operation of 'codes of conduct' which guide ethical practice in scientific research communities, and about the ways in which these codes can be challenged by the practicalities of ‘getting ahead’ in research environments. She finds in the phenomenology of feeling developed by Max Scheler a possible means of transforming codes of conduct, so that they are no longer about abstract, ‘external’ principles with a disciplinary focus, but rather about a culture that enables researchers not only to behave ethically but to develop more inspirational, deep-seated and positive values, including spiritual values. Such transformed codes of conduct would also lead to a more emotionally coherent research environment than one which merely plays lip-service to a set of rules.

In the third section of the book authors look at emotions from a variety of theological viewpoints. Cardinal Gianfranco Ravasi sets out to develop a ‘theology of emotions’. He notes the huge range of emotions (both negative and positive) which are to be found within the pages of the Bible, and which are attributed there both to God and to human beings: God is not some unfeeling, intellectual concept in the Bible, nor is an emotionless impassivity seen there as any kind of goal towards which humans should aim. Ravasi notes the ways in which contemporary divisions of experience, into rational, psychological, philosophical, ethical and other categories, are foreign to the biblical writers, who view experience in a more unitary way – although they do make an important distinction between emotion and desire. He demonstrates the ways in which emotions in the Bible are distributed among a number of physical organs: the heart, intestines, kidneys, nose and liver. He then notes the ways in which emotions, such as anguish and tenderness, are expressed in biblical texts concerning Jesus, and concerning God. Emotions manifestly have a place in Christian theology, revealing as they do some important aspects of human beings – and even of God.

In contrast to the ‘whole-body’ approach to emotions set out in Ravasi’s paper, Ernst Conradie notes that Protestant Christian theology has often given greater priority to cognitive than to emotive aspects of human personhood, focussing (as it were) on ‘head’ rather than ‘heart’. Conradie detects a ‘hierarchy of the senses’ in this theology, with hearing being especially privileged over the other senses since justification comes to us ‘in the form of an alien and unmerited word of forgiveness’. Stressing instead the importance of the senses of touch and of sight, as relating more obviously to the physical rather than the intellectual world which humans inhabit, Conradie offers some theological reflections on how each of these senses can be also be revelatory of some aspect of God – and how they can thus also bring together our intellectual and emotional ‘worlds’.

Roland Karo continues this strand of thinking about humans as corporeal entities. He notes that mystical states in religious traditions are often associated with ‘ego death’, and that, paradoxically perhaps, this is commonly seen as a positive, ecstatic state rather than a negative one. Karo explores this concept with reference to both contemporary neurophysiological studies and the poems of St John of the Cross, unpacking these within an ‘Apollonian *versus* Dionysian’ hermeneutic. Karo concludes that ego death can be experienced from within different emotional gestalts, and that it is love which leads to positive appreciation of it.

Fraser Watts’ valuable paper begins with some groundwork clarifying various different kinds of emotion. In particular, he explores the distinction between

Ekman's 'basic' emotions and more complex, self-conscious emotions, and he concludes that the latter are more characteristically human than the former. He goes on to explore the theological consequences of this, not least when it comes to emotions such as shame and guilt, and to interpreting traditional stories such as that of the Fall of Adam and Eve.

Lluis Oviedo offers an overview of the scientific study of emotions, in order to assess their theological significance. He observes that a broad sweep of scientific disciplines – biological, neurological and social – have engaged with the study of emotions; and, like Watts, he notes the distinctions that have been made between different types of emotion (between first- and second-order emotions, for example, and between positive and negative emotions). He draws particular attention to ways in which the study of emotions has been explored within the sphere of the cognitive science of religion. Oviedo urges that, since the emotions are important in accounts of religion, it is vital that theologians should reflect on the scientific study of emotions, in order to achieve an 'updated version of Christian faith' which take into account the outcomes of research in the cognitive and biological studies of religion.

There follow two papers which focus on two very different theological writers. Mikael Sorhuus engages with the thought of American theologian Jonathan Edwards, regarding his concept of 'the sense of the heart'. Drawing on the ideas of philosopher Jesse Prinz, who sees emotions as 'embodied appraisals', Sorhuus urges that Edward's 'sense of the heart' may be seen to be a means of bringing together cognitive, bodily and emotional processes, in such a way that none of them are excluded. Concluding this section, Richard Bowen explores the work of the great Welsh priest-poet R. S. Thomas. Bowen maintains that 'serious consideration of the relationship between faith and science has taken place almost exclusively in a form of scholarly scientific discourse. Consequently, the faith-science dialogue lacks expressive richness'. Bowen urges that poetry can be expressive of both reason and emotion. He explores the themes of faith, and of science and technology, found in Thomas' poems, and then focusses on one poem in particular in order to demonstrate that 'reflection on such a poem can give insights that are unattainable in conventional scholarly discourse'. Bowen suggests that Thomas offers a positive assessment of pure science, seeing no conflict between pure science and faith; however, Thomas voices suspicion of the de-humanising effects of technology. Bowen urges that poetry such as this seeks creatively to explore, rather than to explain, the Universe. Insofar as poetry has access to, and engages with, our emotions, it enables them to participate in this creative exploration.

In the final section of the book, authors offer some reflections and explorations of emotion from various philosophical perspectives. Alfred Kracher explores the Stoic roots of the way of thinking that sets emotions in opposition to rationality, using the character of Mr Spock in the TV series *Star Trek* as a modern exemplar of someone espousing such a philosophy. He notes that Western Christianity has sometimes endorsed this approach, by distrusting human emotions and by portraying God as above and beyond them; but he also observes that the Christian mystical tradition, notably the Ignatian tradition, contains within it resources that allow us to move beyond such views of God, and of ourselves. Kracher concludes that emotions would not have evolved if there had not been some practical benefit to be had from them, and that (*pace* Mr Spock) emotions as well as rationality are part of a normal, healthy human life.

Zbigniew Liana likewise seeks to move beyond a crude reason-emotion dichotomy, by asking the question: ‘Can reason be emotional?’ He explores the meanings of the words ‘reason’ and ‘emotion’, both as they are commonly used and as they are used within the confines of philosophical discourse, and draws on the concept of a ‘metascientific revolution’ found in the writings of the philosopher Joseph Życiński to point out the contingency of the idea of something ‘being scientific’. Liana concludes that reason not only can, but should, be emotional.

Finally, Hans Muller explores some of the ethical implications which arise from seeing emotion and reason, and science and religion, as dichotomies. He observes that contemporary scientistic standpoints have been seen to lead to moral nihilism, which might lead some to advocate a more emotion-centred approach to ethics. However, Muller draws attention to one precedent for such an emotion-centred approach: the Scottish Enlightenment philosopher David Hume. Hume ‘forcefully advocated the supremacy of the passions over reason in the sphere of morality’, and yet he also reached the surprising conclusion that it is not possible to attribute moral qualities to God, leading to a position of ‘moral atheism’. Muller concludes that, whilst an approach to moral issues based on emotion rather than reason might appear more theologically congenial than one based on scientistic thinking, the case of Hume suggests that this is by no means a straightforward assumption.

This collection of essays offers the reader the fruits of contemporary scholarly reflection on emotions from a rich variety of academic fields, scientific, theological and philosophical. From their various perspectives, the writers here generally caution against too rigid a separation of reason and emotion, and stress the importance of our reflective engagement with emotions to our leading of healthy lives. Acknowledging the ways in which emotions shape our lives, and shape thereby the worlds in which we inhabit, they encourage us in various ways to reflect on that process of shaping, and to deepen thereby our understandings of our emotions, our world – and ourselves.

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# Part I

# The Importance of Emotions, and of Emotional Well-Being

# Chapter 2
# Attachment, Emotion, and Religion

**Pehr Granqvist**

**Abstract** This paper highlights how the development of emotion is intertwined with the development of attachment. I argue, also, that there are certain central emotions and affects associated with particular forms of attachment, which come to define the self in relation to others. Further, this emotion-attachment configuration is expressed in religion, especially in the religious individual's perceived relationship with God. I describe pertinent findings from the scientific literature on the attachment-religion connection indicating that experientially based internal working models of self and other are generalized and lawfully expressed in the context of religion. Thus, attachment-related interactions will affectively color the individual's perceived relationship with God. Yet, God and religion may also provide a source of surrogate attachments, which may aid in repairing negative working models of self and others. Finally, words of caution are offered to prevent misunderstandings of the implications arising from a consideration of how the emotion-attachment configuration is expressed in the context of religion.

**Keywords** Attachment • Internal working models • Compensation • Emotion • Affect • Religion • God • Theology • Evolution • Cognition

There should be no doubt that emotions contribute to shaping the world and the way that we perceive it. Nor is there any doubt that religion is an important feature of the world. And there is no such thing as religion without emotion. Similarly, there is no such thing as attachment without emotion, and yet emotion is also importantly shaped by attachment-related processes and experiences. In this paper, I argue that the inextricable links observed between attachment and emotion come to shape religion in important ways, and particularly in how people mentally experience and represent God in relation to themselves.

In the first section of this paper, the core features and concepts of attachment theory and research are outlined. In the second section, I illustrate how the development of emotion is intertwined with the development of attachment, and vice versa.

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The third section contains an overview of how matters of religion are linked to the attachment-emotion configuration. Finally, I give some words of caution to help prevent misunderstandings that might stem from a consideration of how the attachment-emotion configuration contributes to shaping religion.

Notably, attachment theory was applied as a conceptual framework in the psychology of religion some 25 years ago (see, e.g., Kirkpatrick 2005). Emotion has been pivotal, at least implicitly, to the application of attachment theory to religion from the outset, but the central role of emotion has typically not been made explicit. This chapter serves in part to fill that gap.

## Overview of Attachment Theory and Research

John Bowlby (1969/1982, 1973) and Mary Ainsworth (1985) – the founding figures of attachment theory – defined attachment relationships as strong and enduring affectional bonds characterized by the attached person (usually the offspring) selectively maintaining proximity to his/her caregiver, using the caregiver as a safe haven during distress, and as a secure base when exploring the environment. Finally, in using the caregiver – or attachment figure – in these ways, the attachment figure is implicitly perceived as stronger and wiser by the attached person.

Although physical proximity is an important component of attachment early on, later in development immediate physical proximity normally becomes less of an issue. Partly because of this, a psychological sense of 'felt security' has been suggested as a more viable aspect in older individuals (Sroufe and Waters 1977).

According to Bowlby (1969/1982), the attachment behavioral system was naturally selected over the course of evolution because it enabled gene survival in our evolutionary environment(s) by protecting offspring from natural dangers. Consequently, the attachment system is activated by natural clues to danger (e.g., separation from the attachment figure, physical illness, physical pain) and terminated by clues to safety (most notably physical contact with the attachment figure).

Bowlby (1969/1982, 1973) also argued that early interactions with the attachment figure lay the foundation for what he termed 'internal working models' (IWMs) of Self and Others in relationships. IWMs function as a form of affective-cognitive filter, based on early experience, that guides our perception, expectations, and behavioral inclinations in future relationships. It should be noted that internal working models are both affective and cognitive, as are many other things in psychology; the boundaries between the two are indeed quite fuzzy, especially in the context of emotional relationships.

Finally, Bowlby (1973, 1980) argued that the attachment system is active from cradle to grave, for example, in long-term adult pair-bonds, which are typically the principal attachment relationships in adulthood. This implies that manifestations of attachment in adulthood are not 'regressive', or a sign of 'dependency'.

In certain situations, however, the individual may turn elsewhere (i.e., to a surrogate) for attachment than to his/her usual attachment figures:

> Whenever the ‘natural’ object of attachment behaviour is unavailable, the behaviour can become directed towards some substitute object. Even though it is inanimate, such an object frequently appears capable of filling the role of an important, though subsidiary, attachment ‘figure’. Like the principal attachment figure, the inanimate substitute is sought especially when a child is tired, ill, or distressed (Bowlby 1969/1982: 313).

Besides Bowlby’s basic theory, attachment research often focuses on individual differences in attachment. At the core of secure attachment (B, ca 60–70 % in normal samples) is the assumption of a positive and coherent set of IWMs; the self is assessed as worthy of care, and others are assessed as reliable providers of care. This is manifested in a behavioral balance between attachment and exploration in infant-toddlers (Ainsworth et al. 1978) and in linguistic coherence in discussions of attachment-related memories in adults (Main et al. 2003). In other words, these people do not just claim that their caregivers are loving and caring but they also behave as though that is the case, and they seem to have reason to do so, given that sensitive and other aspects of positive caregiving are the most important predictors of secure attachment (e.g. De Wolff and van Ijzendoorn 1997). Bowlby (1973) and later Main (1991) argued that this strategy is to be understood as primary; virtually all children give it a shot, and it is only when it repeatedly fails that the child will seek out another one (i.e., a secondary or conditional strategy).

Insecure attachment (ca 30–40 % in normal samples) is often subdivided to three categories: avoidant/dismissing (A), ambivalent/preoccupied (C), and disorganized/unresolved (D) attachment. They share a negative and incoherent set of working models at the core (see Cassidy and Shaver 2008).

The first two of these are viewed as conditional strategies. When the primary strategy fails, the child will defensively shift his/her attention from attachment or from exploration and will also defensively exclude attachment- or exploration-related information. This can be done in two different ways (Main 1991), by minimizing (i.e., avoidant attachment) or by maximizing (i.e., ambivalent attachment) attention to attachment.

Notably, these conditional strategies (or organized forms of insecurity) can be understood as defensive filters operating as part of the child’s IWMs. Main (1991) noted that the conditional strategies never fully override the primary/secure one. In computer terms, the conditional strategies represent a form of re-calibration or adjustment of the program rather than a different program. Also, the conditional strategies are fragile; they may work sufficiently well in many situations, but they are prone to crumble during intense stress. Intense stress, then, may help to re-pull the primary or secure strategy that is still lurking as a promise behind the defensive filter.

There is some controversy as to how disorganized attachment should be understood, whether as a defensive response (cf. psychoanalytic ideas related to trauma and dissociation) or as ‘just’ a break-down in organization (e.g. Liotti 2006).

In either event, it is characterized by lapses in behavioral or linguistic organization related to attachment (e.g. approach-avoidance conflicts, freezing).

Although the attachment system is active from cradle to grave, attachment is a principal developmental task of the early years; after that, other tasks and challenges rise to the fore. Nevertheless, attachment relationships continue to serve as foundations from which the child explores its surroundings and navigates in relation to other developmental tasks and challenges (e.g. peer relations, coping, sense of competence: Sroufe 1979).

A large body of developmental and clinical research, on child and adult populations alike, has now indicated that secure attachment acts as a protective factor in development, which generally facilitates the individual's adjustment, even in the presence of other stressors or vulnerability factors such as poverty or a 'difficult' temperament (e.g. Sroufe et al. 2005). In contrast, disorganized attachment has emerged as a general risk factor in development, which is linked to behavioral problems, less favorable peer relations and social skills, and is overrepresented in most clinical populations (Bakermans-Kranenburg and van IJzendoorn 2009; van IJzendoorn et al. 1999).

## Attachment and Emotion

The development of attachment is intertwined with the development of emotion. Before turning to the inextricable links between these two constructs, it may be useful to consider how emotion and related terms are conceived in psychology.

### *What Is Emotion?*

There are, not surprisingly, many ways to define and understand emotion. One of the most influential is Scherer's (2005) component process model of emotion. According to this model, emotions are characterized by five main components, processed in a stage-like fashion: appraisal, bodily symptoms, action tendencies (motivation), expression (communication), and feelings (subjective experience). For example, a snake phobic sensing the presence of a snake assesses the snake as a source of acute danger and reacts with strong amygdaloid activation and sympathetic arousal (e.g. heart pounding), escape movements, a fearful facial expression, and a subjective sense of fright.

The first component (i.e. 'appraisal') is probably the most controversial, indeed the source of a long-standing debate in psychology, as it implies that some form of cognitive process is required for emotion. But whether appraisal is to be understood as cognitive or not, some brain processing of the stimulus (e.g., snake) is of course required for an emotion to be elicited. And brain processing is never purely cognitive but almost always involves affective components. Indeed, 'cognition' is a psychological construct, not a neural construct, and its boundaries are fuzzy indeed.

Ekman (1992) has taken discrete emotions as a principal area of interest. His theory about basic emotions is arguably the most important in the field of emotion over the last four decades. Ekman's notion of basic emotions refers to evolved adaptations in the form of momentary (often very rapid) states that are discrete, measurable, physiologically distinct, universal, and developing early in life, typically during the first year. According to Ekman, there are six such basic emotions: happiness (known by some other scholars as love, joy, or trust), anger, fear, sadness, surprise, and disgust.

In the wake of the child's developing, explicit sense of self (Lewis and Brooks-Gunn 1979), other and more complex emotional states start to appear, often in the second year of life. Such self-conscious emotions (e.g. pride, guilt, and shame) involve perceived strengths or inadequacies of the self and often reflect blends of basic emotions, which are highly culturally influenced.

If taken to imply that all components of emotion in Scherer's (2005) model, or features of emotion in Ekman's (1992) model, must be present (i.e., necessary conditions) for an emotion to be present, then these models portray emotion in an ideal type (or prototype) form; emotion as an integrated, organized unit. Very clearly, some emotional things are characterized by conflicting attributes, as will be illustrated later. This is especially likely to be the case for older individuals, who have learned to partially regulate emotions: for example, to suppress certain experiential components (e.g. of envy) and to miscommunicate emotional states to others (e.g. stonewalling or hidden rage in a conflict-ridden marriage, characterized by intense physiological arousal and yet behavioral inhibition of much of its expression). Therefore, it is often more fruitful to focus on affect rather than discrete emotion, with the former understood as a more general term that includes less differentiated and more fuzzy states of arousal and experience (e.g. distress).

Also, when the explicit recognition of self along with self-conscious emotions have emerged, it is easy to see how the basic emotions may also come to be affected. For example, a person in an angry state may have come to understand that anger should not be expressed too overtly, and yet it is difficult not to as emotions involve action tendencies, so the person may experience shame at the self's inability to suppress expressions of anger. Anger, whenever it occurs, will be coupled with shame.

## *The Development of Attachment and Emotions Are Intertwined*

How, then, is attachment tied to emotion, and to affect more generally? There are at least two inter-related points of entry into this question. The first is more normative (or species-typical) and relates to inextricable links in the development of attachment and emotions, whilst the second concerns individual differences in attachment and their relations to emotion and affect.

During the first 6 months of life, attachment has not really matured, that is, the infant has not yet settled on the figures to whom attachment behaviors will be preferentially directed, but is open to interaction with almost anyone that happens to be around. Not coincidentally, the attachment system itself is still under maturation (Bowlby 1969/1982). Considering emotions, the basic emotions have not yet matured either. The emotional states of the first months of life are very general and undifferentiated, consisting of little more than two global states: attraction to pleasant stimulation and withdrawal from unpleasant stimulation (Camras et al. 2003). Withdrawal from unpleasant stimulation goes in tandem with displays of general distress, typically evident in crying; a form of attachment behavior that serves to increase the probability of physical proximity between infant and caregiver. More specifically, crying serves the all-purpose function of alerting the surrounding (and especially the caregivers) to the infant's need, whatever it may be at the time. On the other hand, newborns' and young infants' attraction to pleasant stimulation is evident in positive interest (preferential looking and smiling).

Yet, these general affective states are highly socially directed; both are often elicited and terminated by social stimulation or the lack thereof (e.g., social understimulation evokes distress, tender loving care evokes positive emotionality; Bowlby 1969/1982). And the social stimulation is of course usually offered by the child's caregivers, that is, by attachment figures in the making.

During the second half of the first year, the child has typically formed one or a few attachment relationships (*ibid.*). During the very same period, the child's highly general emotional states differentiate into basic emotions. Distress branches into 'negative' basic emotions (most notably anger and fear), and positive emotionality crystallizes into happiness (or joy, love, trust). The prototypical fear of a child at this age is the fear of strangers, and the prototypical happiness is the love felt for an attachment figure who responds sensitively to the infant's needs.

At this critical point of development, an infant who is fortunate enough to be cared for by a sensitive and responsive caregiver will, then, presumably experience happiness (love, trust, joy) often and will find that negative emotions can be managed through the help of the caregiver; negative emotions need not be defensively distorted but can be directly communicated (Cassidy 1994). Happiness and resolution will become associated with the attachment relationship in the child's mind.

A less fortunate infant, who is cared for by an unresponsive, insensitive caregiver, will not experience happiness as often, at least not in relation to interactions with the attachment figure. Similarly, this infant will not have equally reliable experiences of the attachment figure's aid in bringing negative emotional states to resolution; perhaps the child cries in vain half of the time or gets punished or ridiculed for crying. So the child must learn, eventually, to adapt his/her emotional expressions to the desiderata of the caregiver. Defensive distortion of emotion and affect will become associated with the attachment relationship (Cassidy 1994).

Towards or during the second year of life, self-conscious emotions will also come to be interwoven with attachment. At this point, the child's physical mobility and exploratory inclinations are also on the increase, so the task of the attachment figure becomes more complex; not only is it important to be accessible as a safe haven when the child is distressed, but also to be available as a secure base when the child treads new exploratory territory, as well as to communicate limits and engage in discipline in ways that show respect and care for the child's self. Not coincidentally, this is the age period during which the child will come to assess the self as worthy of care, as competent, and a source of pride versus the self as unworthy, incapable, and a source of shame and guilt.

## *Central Affect and Individual Differences in Attachment*

The second point of entry to the attachment-emotion connection concerns individual differences in attachment and their effects on emotional/affective states and dispositions, especially as they are experienced and expressed in relationships. I have already set the stage for this in the remarks made at the end of the previous section. The central point is that individual differences in attachment can be characterized in terms of emotional experiences and expressions in the child-caregiver dyad. There are certain central emotions and affects associated with particular forms of attachment, states that come to define the self in relation to others.

With 'central' emotion/affect, I do not mean to imply that the emotion/affect in question is necessarily the modal one, the one experienced most frequently. In some cases, it may be central simply because it has been experienced at very intense levels, even if experienced rarely or only on occasion. Often, the source of the emotions/affects and the ways in which they are resolved are likely to be more important than their sheer frequency of occurrence.

Viewed from the angle of emotion, secure attachment can be characterized in terms of happiness (love, trust) and pride as central emotions. Furthermore, emotion (including 'negative' emotions such as anger and fear) is communicated in an open, and ultimately flexible, manner vis-à-vis the sensitive caregiver. In other words, the emotions may be relatively likely to come in the form of the organized units portrayed by emotion theorists such as Scherer (e.g. 2005) and Ekman (e.g. 1992). Also, the securely attached individual will develop a sense of reassurance that negative emotions can be resolved; they need not be feared, warded off, closed down, and so on, but can be communicated to others, who will aid the self if necessary. As Cassidy (1994) has noted, such interaction sequences will aid the child in developing emotion regulation skills. Such open communication of emotion may also lead observers to conclude that the emotional appearances are often real; what the child communicates is usually what the child feels, and the child is often – though of course by no means always – happy. The secure child may also on occasion experience high levels of anger, which is then also likely to be communicated openly. Thus, a parent who is occasionally yelled at and called derogatory names by his or her frantic 2-year old should entertain the possibility that these offenses reflect a perverted expression of security and love.

The most consistent caregiving predictors of child avoidant attachment are rejection and intrusion (Ainsworth et al. 1978; Isabella and Belsky 1991). Bowlby (1973) speculated that rejection initially gives rise to protest, expressed as anger. However, it is risky to express anger and neediness to a rejecting caregiver, whose patience for such behaviors seems very limited; indeed, the child could conceivably be ridiculed, abused, and ultimately abandoned if that behavior were to continue (Main 1981). Thus, anger will ultimately become hidden from the attachment figure and might be displaced against others (Bowlby 1973; e.g. aggressive behaviors towards toys and later against peers and out-groups). Being rejected and ridiculed for one's neediness is also linked to shame (Claesson and Sohlberg 2002; Leary et al. 2001). On the whole, avoidant child-parent dyads communicate emotion in distorted and rigid ways, for example using false smiles and lip-serving, socially facile expressions. In other words, the positive emotional appearances are unlikely to be real.

Ambivalent attachment is predicted most consistently from inconsistent sensitivity and involving or role reversing caregiving, in which the parent pulls the child's attention to the needs of the parent (Ainsworth et al. 1978; Cassidy and Berlin 1994; Isabella and Belsky 1991). Ambivalence is expressed as intense anger against the attachment figure, coupled with signals of helplessness (i.e. the self is incapable). Guilt for failure to please the parent is often present later in development (Main et al. 2003). One can observe distorted and rigid communication of emotion here as well, most typically angry resistance as though the child does not want the parent to attend to the child, coupled with feigned helplessness when the child does not get the parent's attention and care. On the whole, an observer is likely to conclude that there are overly negative and dramatic emotional appearances.

Disorganized attachment is most consistently predicted by atypical caregiving such as maltreatment, frightened and frightening caregiving (Hesse and Main 2006). Such parental behavior is believed to put the child in a paradoxical situation; on the one hand, the caregiver is the child's source of safety but on the other the caregiver is the source of alarm – hence the break-down in attachment organization. Psychologically, this implies a fear without solution, associated with dissociated affective states and communication vis-à-vis the caregiver, often in the form of rapid inexplicable affective shifts, indicating that the caregiver is experienced both as persecutor and rescuer. An observer is likely to be alarmed and yet confused by the emotional appearances.

## Attachment, Emotion, and Religion

The most important general points of departure for the attachment-religion connection are some observations made by religious scholars and researchers long before attachment theory was invented (see Kirkpatrick 2005). For example, religion can be understood as a relationship, among other things; indeed the word religion (relegare) literally means 'being bound', and one's personal relationship with God is often singled out as the most important aspect of one's religion. Also, love seems to be the very most central emotion involved in one's relationship with God – it certainly is not the only one, though, but more on that later.

In fact, Kirkpatrick (2005) has suggested that the believer's perceived relationship with God meets the criteria for defining attachment relationships sufficiently well to be characterized as a form of attachment, at least as far as the psychological functions of the relationship are concerned (see also Granqvist and Kirkpatrick 2013; Granqvist and Kirkpatrick in press). First, regarding proximity maintenance, although there are many kinds of prayers, one of the most frequently endorsed reasons for praying is to experience a sense of closeness to God (known as contemplative or meditative prayer in the literature; Spilka et al. 2003). The importance of proximity maintenance is also highlighted by what it means to be separated from God; in much Christian theology, this is the very essence of hell.

Second, concerning God as a safe haven, people are particularly likely to turn to God during stress, and the more stressful a situation is, the more likely people are to do so (Pargament 1997). Empirical data also suggests that many sudden religious conversions occur during life situations of significant emotional turmoil (Ullman 1982).

Third, with respect to the secure base component, when believers are asked to rate God's traits, some of the most frequently endorsed are: loving, supportive, guiding, protective (Kirkpatrick 2005). These are qualities that are important for any secure base to possess in order to promote well-being and exploration in the attached person. Also, perceptions of having a personal relationship with a God that is thought to have such qualities predict aspects of well-being such as freedom from worry and remission from depression over and above almost every conceivable covariate (see Granqvist and Kirkpatrick in press; Smith et al. 2003).

Finally, that believers perceive God as stronger and wiser really goes without saying. In fact, at least in Christian theology, God is typically even perceived as omnipotent, omnipresent and omniscient, thus outperforming every other attachment figure conceivable.

Considerations such as these were important for the idea that the believer-God relationship can be defined as an attachment relationship. However, it is one thing to find affirmative evidence for an idea *post hoc*, and quite another to successfully predict religious outcomes *a priori*. Naturally, the latter has been needed as well. To give but one example of how this has been accomplished, from childhood (i.e. when attachment and religious representations are in the making), we told our participating 5–7 year old children stories about fictional, visually represented children who were in attachment activating and attachment neutral situations (Granqvist et al. 2007a). In the attachment activating situations, the fictional child was sick, or hurt, or alone. In the attachment neutral stories, the fictional child was in a bad mood, good mood, or neutral mood. We also asked the participating children to select a symbol in felt cloth that could represent God (in the form of a cloud, a heart, or a grown-up).

After each story, participating children were told to place their God symbol on any location on a felt board, which also contained the fictional child. The dependent variable was the physical distance between the fictional child and the God symbol. As predicted, the God symbol was placed significantly closer to the fictional child when he/she was in the attachment activating than in the attachment neutral situations.

These results have now replicated across four cross-national (U.S., Swedish and Italian) samples (see Granqvist and Kirkpatrick in press). These studies illustrate that God is already viewed as a potential safe haven in distress in the late preschool and early school years.

The religion-as-attachment idea has been supported by novel research in several studies covering childhood, adolescence, young adulthood, and old age. Moreover, it has been supported in at least two of the world's main faith traditions, Christianity and Judaism (for a recent review, see Granqvist and Kirkpatrick in press). Therefore, I concur with the American theologian Kaufman, who precognized the conclusion that can be drawn from this research: 'The idea of God is the idea of an absolutely adequate attachment-figure. … God is thought of as a protective and caring parent who is always reliable and always available to its children when they are in need' (Kaufman 1981: 67).

## *Attachment Quality and Developmental Pathways to Religion*

Also, individual differences in the attachment-emotion configuration are relevant to understanding individual differences in ways of feeling and relating to God and religion. We have argued that there are two attachment-related pathways to religion and to different ways of being religious (for a review, see Granqvist and Kirkpatrick in press).

*The Correspondence Pathway.* First, we claim that religion in the case of secure attachment and experiences of being sensitively cared for develops from (a) generalized, positive representations of self and other (IWM aspect), and (b) partial adoption of a sensitive caregiver's religion (social aspect). Hence, insofar as the caregivers have been actively religious, the secure offspring is expected to become likewise, in which case his or her beliefs in and perceptions of the divine will mirror that of a sensitive attachment figure. The IWM aspect is more central to emotion/affect than the social aspect so I will stick to the former in the remainder of this paper.

The hypothesis of IWM correspondence has received considerable empirical support. For example, secure attachment and estimates of sensitive caregiving experiences have been linked to a loving and caring God image (Cassibba et al. 2008; Kirkpatrick 1998; Kirkpatrick and Shaver 1992), and to increased religiousness, specifically in the context of a positive influence from other relationships (Granqvist and Hagekull 1999, 2003). Putting it more poetically: love seems to foster love for these people.

In addition, we have found in a number of studies that security and experiences of being sensitively cared for are associated with access to one's relationship with God also at unconscious/implicit levels of the mind. For example, in the child study described above (Granqvist et al. 2007a) in which we used semi-projective situations to study children's sense of closeness to God, we found a significant two-way interaction regarding children's sense of God's closeness between secure *vs* insecure attachment on the one hand, and attachment activating *vs* neutral situations on the other. In this study, secure children placed the God symbol closer in attachment activating situations, but farther away in attachment neutral situations, than did insecure children. Another way to describe this interaction is that secure children discriminated to a larger extent between the two types of situations in their sense of God's closeness than did insecure children. In parallel to how secure children behave with their caregivers, they gave attention to closeness to God when attachment concerns were raised, and attended less to closeness to God when such concerns were not raised. These findings have recently been extended in a cross-generational study, in which secure attachment among Italian mothers predicted their children sensing God as closer compared to children of insecure mothers (Cassibba et al. 2013).

I'd like to highlight another of Cassibba's studies (Cassibba et al. 2008), because it seems immediately relevant not only to the task at hand but also to the Franciscan setting surrounding the 2014 ESSSAT conference, as some of the participants in this study were from Franciscan monastaries. Considered as a group, Catholic priests, monks and nuns may represent a prototype of rare believers who actually are likely to experience a principal attachment to God. The chastity vow entails abstaining from 'earthly' marriage and thus from what is the principal attachment relationship for most adults (Bowlby 1980). The daily lives are also to be 'lived in Christ'. Moreover, the day at the convent contains considerable time spent in contemplation about God, including several daily prayer events and a nightly religious service.

Psychologists are often both biased against and ignorant about religion, so for a psychologist it may be tempting to ask why on earth people would voluntarily seek out such a demanding religious life. Could it be as a form of compensation for attachment adversities in the past? In Cassibba's study, that did not seem to be the case at all. According to the method-of-choice for assessing adult attachment organization (the Adult Attachment Interview: Main et al. 2003), most of these participants (77 %) were secure, compared with lower percentages (roughly 60 %) in both a matched comparison lay-catholic group that was used in this study and an international meta-analytic normal population sample. Moreover, the mothers in the devout group were also estimated as high/higher than mothers in the comparison group in sensitivity by independent interview coders.

Notably, the idea of generalizing IWMs is relevant also to insecure attachment and experiences from insensitive caregiving. We have learned less from extant research about the generalization of negative IWMs in the context of religion, but the limited theoretical and empirical evidence available suggests that the self of the insecure individual is represented as unworthy (shameful, guilty) or self-sufficient (i.e. does not need God), and God is at least implicitly represented as distant or controlling (Granqvist and Kirkpatrick in press).

Anger in any of its many distorted forms is conceivably a central affect, though the anger may be displaced (e.g. against outgroups such as members of other faith traditions) while God may be idealized (cf. incoherent representation); God may be professed as loving and caring, but the mind of the insecure individual will often behave in opposite ways at unconscious/implicit levels of operation (e.g. shift attention from God during attachment activation: see Granqvist and Kirkpatrick in press).

Regarding disorganized attachment, fear and dissociated forms of fear is conjectured to be the central affect. The individual is prone to altered states when faced with stress, and there is potential ‘saving’ through mystical experiences, in which God may be represented as both persecutor *and* rescuer (cf. Otto’s (1923) description of mystical experience as both ‘fascination’ and ‘tremendum’). Supporting these speculations, we recently found empirical support for a mediating model linking unresolved states regarding loss and abuse (the adult analogue to disorganized attachment) to mystical experiences, via a general disposition for alterations in consciousness (or ‘absorption’, a mild form of dissociation) (Granqvist et al. 2012: for a successful conceptual replication, see Thomson and Jaque 2014).

I realize that the mediational model suggested may seem to pathologize mystical experiences, but appearances are not always real. In fact, we have argued that mystical experiences – which are not generally linked to psychopathology in the first place – may represent positive life-changing experiences following stress, and that such experiences might even promote mental reaggregation (Granqvist et al. 2012). As noted by the singer-songwriter Leonard Cohen (1993), ‘there is a crack, a crack, in everything, that’s how the light gets in’.

*The Compensation Pathway.* As noted at the outset of this chapter, Bowlby (1969/1982) speculated that certain conditions may lead people to seek out surrogate attachment figures. Insecure attachment in the primary attachment relationships may be one of these. Accordingly, with the so-called compensation hypothesis, we (Granqvist and Kirkpatrick in press) have stated that religiosity in the case of insecure attachment develops from distress regulation strategies, where God functions as a surrogate attachment figure for the individual. For this to take place, though, the individual’s usual conditional attachment strategy may have to crumble (i.e. it no longer suffices for the avoidant individual to minimize attention to attachment and distress or for the preoccupied individual to remain preoccupied with his/her usual attachment figures). This typically happens when stress becomes too high; that’s when the crack appears, and that’s when the light gets in.

To illustrate with a concrete, made-up example, consider an avoidant man who has focused too much on work and has relied too much on the bottle to regulate stress. His wife has finally had it, for real this time, and she leaves him. He drinks even more, and starts misbehaving at work. He’s ultimately fired. In emotional desperation, he goes to an Alcoholics Anonymous meeting or to Church. When most vulnerable, he becomes continuously exposed to the idea that God loves him in spite of his shortcomings, indeed that God’s love, unlike the love of fallible humans, is unconditional and eternal. Here, he ‘finds’ God, and it’s a sudden, intense infatuation. Put differently, it’s an attempt to make love into the central emotion.

The compensation idea has now received empirical support in relations between insecure attachment and estimates of parental insensitivity on the one hand, and a number of religious ‘outcomes’ on the other. The latter include religious instability (e.g. meta-analysis of sudden religious conversions: see Granqvist and Kirkpatrick 2004), increased religiousness during stress (intense relationship problems and crises, Granqvist and Hagekull 1999, 2003), and religious syncretism (Granqvist et al. 2014).

In adult studies, however, estimates of past attachment experiences have tended to predict religiousness more strongly than current attachment security-insecurity. For example, in a Swedish study, estimates of past parental insensitivity predicted religion in line with the compensation hypothesis, whereas current insecurity was unrelated to religiousness (Granqvist et al. 2007b). Thus people who have suffered past attachment adversities are more likely to experience sudden religious changes and conversions during periods of emotional turmoil, and yet having experienced such religious changes is not linked to an insecure/incoherent organization of attachment at present. Accordingly, it may be speculated that religion helps some individuals to 'earn' attachment security, that is, to develop a secure organization of attachment in spite of past adversities and insecurity (cf. reparative experiences with a therapist or a secure love partner: Main et al. 2003).

The idea of earned security through religion has a clear counterpart in how some previous scholars have considered the effects of religion on mental functioning (e.g. James 1902). This makes sense also if one considers the theological portrayal of God in religious scriptures and services to which believers, such as the avoidant man described above, are frequently exposed. Being exposed to the idea of God's unconditional love should be a very emotionally powerful message and experience, especially for people who have implicitly viewed themselves as unworthy of tender loving care and yet are in desperate need for it. How long this 'new morning' will last seems to vary however (Hood et al. 2009), so it will be important to determine in research which factors may contribute to earned security and which factors make 'the narrow road' taken just another dead end, with yet another lamb ultimately drifting from the wayside and from the shepherd.

## Words of Caution

Some points covered in this presentation are likely to be somewhat controversial, and yet this may be due to simple misunderstandings. So, in closing, some common misconceptions will be described to prevent unnecessary controversies from arising (see also Granqvist 2006: Kirkpatrick 2005). First, it should be understood that the attachment account of religion that my colleagues and I are working with rests, quite simply, on an agnostic position with regard to the metaphysical question of God's existence. We study part of the psychological foundations of matters of religion, and we do not study the metaphysical veracity or feasibility of those matters. In other words, any attribution of ontological reduction or 'embracement' to our position simply reflects a grave misunderstanding of what we aim to do. Also, anyone going out on an ontological tangent based on the research presented here is advised to entertain the possibility that they are treading the territory of genetic fallacies. I normally take these points for granted but they may be worth explicating in this context, as we are engaged with science-theology connections (or disconnections).