



## Psychiatry, religion, positive emotions and spirituality



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### ABSTRACT

This paper proposes that eight positive emotions: awe, love/attachment, trust/faith, compassion, gratitude, forgiveness, joy and hope constitute what we mean by spirituality. These emotions have been grossly ignored by psychiatry. The two sciences that I shall employ to demonstrate this definition of spirituality will be ethology and neuroscience. They are both very new. I will argue that spirituality is not about ideas, sacred texts and theology. Rather, spirituality is all about emotion and social connection that are more dependent on the limbic system than the cortex.

Specific religions, for all their limitations, are often the portal through which positive emotions are brought into conscious attention. Neither Freud nor psychiatric textbooks ever mention emotions like joy and gratitude. Hymns and psalms give these emotions pride of place. Our whole concept of psychotherapy might change, if clinicians set about enhancing positive emotions, rather than focusing only on the negative ones.

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Only in the last few decades have ethology and brain imaging rendered the positive emotions and spirituality of the Neolithic mind “visible” to modern scientists who, previously, thought that they could do without them. This paper will build on the relatively new scientific disciplines of anthropology, ethology (animal behavior) and neuroscience—all of which study the so-called positive emotions such as awe, love, joy, hope, forgiveness and compassion that underlie spirituality. Positive emotions, per se, are present in most mammals and have been experimentally shown to help humans behave communally and to learn more quickly (Fredrickson, 2001). I shall argue that spirituality is virtually indistinguishable from these positive emotions, and is thus rooted in our evolutionary biology and is a denominator for all faiths, pushing the notion of “one true religion” toward extinction.

Our positive emotions, and thus our spirituality, reside in our limbic or feeling brain, which for the last 200 million years has evolved steadily—but primarily in our mammalian ancestors. The neocortex or thinking brain is from where our science, our culture and our religious beliefs have evolved. It has evolved more rapidly in our human ancestors than in mammals and has evolved most spectacularly over the last 2 million years. For selfish reptiles to evolve into loving mammals took the genetic evolution of the emotional limbic system. For loving, playful passionate mammals to become scientists and dogmatic theologians took the both the genetic evolution of our huge human neocortex and the evolution of language and culture.

All the world’s myriad religions are culturally based and must like languages be learned. In contrast, spirituality is biologically “hard wired” in us all. Thus, it is important for psychiatry to appreciate and understand a person’s religion as they would understand their parochial customs. It is important for psychiatry to appreciate a person’s spirituality, as they would empathically understand what is in their hearts—both literally and metaphorically.

Although the limbic system and the neocortex are neurologically richly connected, they sometimes treat each other as strangers. But the whole brain cannot work properly if it is divided against itself. In emphasizing the power of emotions like love, compassion and forgiveness, modern students of spirituality try to perform what the science of nutrition performed for the world’s ethnically diverse diets. Just as nutrition identified the vitamins and the four basic food groups that make all seemingly “disgusting” ethnic diets nourishing; just so by focusing on neuroscience and ethology, this paper will examine the positive emotions and culture-free spirituality that make major religions nourishing.

Negative emotions are often crucial for survival—but only in time present. When we are frightened, angry or depressed, it is hard to create or to learn new things, but such emotions are very interesting to psychiatry. The positive emotions are more future oriented and help us to broaden and build (Fredrickson, 2001). They help us to survive in time future. Careful experiments document that while negative emotions narrow attention and miss the forest for the trees (Fredrickson, 2004), positive emotions, especially joy, make thought patterns more flexible, creative, integrative and efficient (Isen et al., 1991; Panskepp, 1998;

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Lyubomirsky et al., 2005). However, our psychiatric literature avoids positive emotions like the plague. Until the last 20 years, psychiatry knew very little about the positive emotions. We may mumble words like hope, love and joy, but then we roll our eyes or change the subject. Consider the fact that a leading American text, *The Comprehensive Textbook of Psychiatry*, half a million lines in length, devotes 100–600 lines each to shame, guilt, terrorism, anger, hate and sin, and, of course, devotes thousands of lines to depression and fear/anxiety. In contrast, the textbook devotes only five lines to hope, one line to joy, and not a single line to faith, compassion, forgiveness or love (Sadock and Sadock, 2005).

Yet, the positive emotions are mentioned over and over again in hymnals from all denominations. Hymns give gratitude and compassion pride of place. The cultural memes of religion may kill thousands, but religions offer positive emotions a safe portal to enter into the consciousness of billions. The new field of Positive Psychology (Seligman and Csikszentmihalyi, 2000; Peterson, 2006) reflects the effort of 21st century to bring the study of positive emotions, often dismissed as “humanistic psychology” into the mainstream of scientific study and intervention. Longitudinal studies have repeatedly found future mindedness to be a critical ingredient of mental health (Clausen, 1993) but this is also true of spirituality.

It is easy to forget how very recent is our scientific interest in intimate relationships, and that love as attachment rather than lust is largely a discovery of the last 75 years. In 1940, a relational world governed by oxytocin, mirror neurons, empathy and limbic maternal attachment was still scientifically inconceivable. Instead, the secular and narcissistic love and lust of Freud and the Kama Sutra held sway.

Infantile autism is a common disorder, which is due to a congenital absence of empathy, but it was not recognized until 1943 (Kanner, 1943) when a child psychiatrist finally noticed it in his own son. In other words, in the 1930s, the congenital impairment of attachment reflected in childhood autism was harder for scientists to grasp than quantum physics. 3000 years of Buddhist and Hindu and 2000 years of New Testament teaching had still left no impact on the understanding of empathic love in science! Indeed, it was 50 years later in the 1990s before the genetic disorder of Infantile autism was absorbed into psychiatry's formal diagnostic framework.

It was only in 1950 that John Bowlby, who was both a psychoanalyst and an ethologist, began to establish awareness that attachment experiences are fundamental sculptors of personality, and that babies “imprint” on their mothers not because their mothers fill their bellies, but because mothers cuddle them, sing to them, and gaze empathically into their eyes. Experimental evidence began to follow. The scientific study of positive emotions only began in the 1970s with Paul McLean's elucidation of the limbic system (MacLean, 1990).

Mystical experience is firmly rooted in the limbic system. In the early 19th century the pioneering French psychiatrist, Etienne Esquirol, recognized the association of mysticism with temporal lobe epilepsy. Other names for this disorder are complex partial seizures, TLE, and psychomotor epilepsy. During these seizures that affect the limbic system there may be increased emotionality, anger, sadness, elation and guilt (Bear and Fedio, 1977). Temporal lobe epilepsy involving the limbic system is also associated with awe, an enhanced sense of personal destiny, sensations of unity, *déjà vu* experience, “enlightenment”, white light, and the sudden recognition of hidden meanings and causation. Common behavioral alterations associated with TLE include increased philosophical and religious concerns, increased likelihood of religious conversion, and a “characteristic deepening of the emotional life” (Geschwind, 1983). These are similar to the traits noted in

individuals considered to be high in genetically based “spiritual transcendence” (Cloninger, 1994).

Although neuroanatomists differ as to the limbic structures that should or should not be included in our definition of the limbic system, a majority of investigators would include the hippocampus, the amygdala, the insula, and the anterior cingulate and the ventromedial prefrontal cortices. Only in the last 20 years has the anterior cingulate gyrus, and only in the last 10 years has the insula been seen of equal importance to the hippocampus and the amygdala. Primate altruistic attachment (Harlow, 1958; Bowlby, 1979; Zubieta et al., 2003) and primate empathy via spindle cells (Allman et al., 2001, 2005), and via mirror cells (Carr et al., 2003; Rizzolatti, 2005) are all very recent discoveries. The first article specifically on “the neurobiology of the positive emotions” (Burgdorf and Panksepp, 2006) has only been published in the last decade.

Love lives within the limbic medial temporal lobe—where smells, music, caretaking and memory all come together—and most especially in the limbic system's anterior cingulate gyrus. Remove a mother hamster's entire neocortex, and she will seem feeble-minded in a psychologist's maze, but she can still unselfishly love and raise her pup. Damage her limbic system only slightly, and she can still be a wizard at mazes but an utterly incompetent mother (Panskepp, 1998).

The effect of positive emotion on the autonomic nervous system has much in common with the relaxation response to meditation popularized by Herbert Benson (Benson, 1996). In contrast to the fight-or-flight response of negative emotion, which activates the sympathetic nervous system, positive emotion activates the parasympathetic nervous system. As in meditation, positive emotions—like joy, compassion, attachment, trust, and forgiveness—lower metabolism, blood pressure, heart rate, respiratory rate and blood cortisol levels. Functional imaging fMRI studies of Kundalini yoga meditation have documented such increased parasympathetic activity producing first relaxation followed by a profound sense of quiescence (Newberg and Iversen, 2003).

I shall define spirituality as the amalgam of the eight positive emotions that bind us to other human beings—and to our experience of “God” as we may understand her/him. Love, hope, joy, forgiveness, compassion, faith, awe and gratitude are the spiritually important positive emotions addressed here (Vaillant, 2008). I have omitted from the list four other positive emotions—excitement, contentment, mirth, and a sense of mastery, as we can feel these latter four emotions alone on a deserted island. In sharp contrast, the eight positive emotions that I have selected all involve human connection. In contrast to negative emotions, none of the eight are all about “me”; all are profoundly included in all of the world's great religion; all are intrinsic to proper care of the patient; yet none are really discussed in our psychiatric textbooks.

Negative emotions such as fear and anger are also inborn and are of tremendous importance. Dedicated to individual survival, the negative emotions are all about me and inherently narcissistic. We feel both the emotions of vengeance and of forgiveness deeply, but the long-term results of these two emotions are very different. Negative emotions are often crucial for survival—but only in time present. The positive emotions help us to survive in time future. Careful experiments document that negative emotions narrow attention and miss the forest for the trees (Fredrickson, 2004). When we are frightened, angry or depressed, it is hard to create or to learn new things. Positive emotions, especially joy, make thought patterns more flexible, creative, integrative and efficient. Positive emotions epitomize what Charles Darwin called social emotions; they all help us “break out of the ego cage of I and thine.”

He is forever free who has broken

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