Self-Evident Spiritual Experience and Empirical Psychology

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Since the turn of the millennium, Western psychology has widened its scope: Although self-evident experiences like love, hate, empathy, or wisdom are not instantly replicable, cannot be easily communicated, and are prone to deception, such phenomena have gradually been accepted as legitimate objects of empirical study. Concurrently, psychology has abandoned its simplified, merely Western point of view and increasingly attends to cultural diversity. The present paper focuses on religious or spiritual experiences, which until now have been largely excluded from psychological studies. First, in an attempt to link theological consideration and psychological methodology, suggestions are developed which could enable future researchers to apply Popper's critical rationalism to the study of reports of self-evident religious or spiritual experiences. These suggestions are based on criteria of falsifiability which are derived from theological literature. Secondly, these suggestions are supported by the Indian point of view on self-evident spiritual experiences. In this respect, Western scientific methodology is expected to benefit from Eastern philosophy of science. These aspects will be discussed in the next paper.

Keywords: Western psychology, Self-evident experiences, Spiritual experiences.

1. Self-Evident Experience

The most impressive and intense part of this experience was the white light of absolute purity and cleanness. It was like a glowing and sparkling flame of incandescent whiteness and beauty, but not really a flame — more like a gleaming white - hot ingot, yet much bigger and vaster than a mere ingot. The associated feelings were those of absolute awe, reverence, and sacredness. Just before this experience I had the feeling of going deep within myself to the self stripped bare of all pretense and falseness. It was the point where a man could stand firm with absolute integrity — something more important than mere physical life. The white light experience was of supreme importance — absolutely self-validating and something worth staking your life on and putting your trust in. The white light itself was so penetrating and intense that it was not possible to look directly at it. It was not in the room with me, but we were both somewhere else-and my body was left far behind (Pahnke & Richards, 1966, p. 180, quoting a participant of the "Good Friday Experiment").

The present methodological paper focuses on the epistemology of self-evident experience as an object of empirical research in psychology. Such experience is characterized by (1) a strong emotional quality, (2) its subjectivity in the sense that it cannot be easily communicated to others, (3) its lack of (instant) replicability, and (4) its lasting effect on the individual and his or her personality.

A multiplicity of self-evident experiences has been reported in the field of spirituality and religion: The visions of God encountered by mystics of various cultures either spontaneously or as a result of prayer or meditation may serve as an example (e.g., Beardsworth, 1977; Wiebe, 1997). Near-Death Experiences (NDE) and Out-of-Body Experiences (OBE), sometimes encountered by people who, after having been reported to be clinically dead, have regained consciousness, are mostly highly spiritual or religious by their nature (e.g., Wiebe, 1997; Zaleski, 1987); the "subject" of these experiences rather is the immaterial spirit than

the material psyche and it has been frequently reported that the spirit was reluctant to re-unite with the psyche and the body at the end of NDE and OBE. Other self-evident experiences have been reported by persons practicing meditation and by users of psychedelic drugs. Especially experiences following the substance group of "entheogens" were reportedly accompanied by an extremely strong spiritual or religious quality (e.g., Grof, 1998; Roberts & Hruby, 2002).

Self-evident experiences though are not limited to the field of religion or spirituality. They also pertain to "just knowing" a fact by one's intuition in the sense of Carl Jung's (1921/1971) account of Psychological Types, to the non-spiritual effects of psychedelic drugs, or – in a broader sense – to comparably common experiences for example of love or hate towards a person, to empathy and moral insight (Haidt, 2001), which also may fulfill the above mentioned criteria of strong emotionality, subjectivity, non-replicability, and long-lasting consequences for the individual's personality and further course of life.

For practical reasons and in order to limit this extremely vast field of scholarly interest to a manageable size, in the present paper we will only focus on self-evident experiences which are spiritual or religious by their nature. While the term "spirituality" rather pertains to metaphysical experience in general, "religion" implies the experience of or belief in a personal God or personal Gods or deities, often accompanied by the system provided by a certain religious denomination. As the use of the two concepts is inconsistent (Nelson, 2009), and with respect to our culturally universal approach, we will not follow this distinction and the terms "spiritual" and "religious" will be used as synonyms.

2. The Traditional Position of Western Epistemology

2.1 Historical Roots

Modern psychology's epistemology has developed from philosophy of science in general, which goes back to Ancient Greece. During the first centuries of Christianity there was some uncertainty whether religious belief was a matter of rationality or of emotion and intuition. For example, Tertullian's saying credibile est, quia ineptum est (De carne Christi 5.4) suggested Christian believes to be true just because they sounded too inept to be true (for details of the argument see Sider, 1980). Although this consideration is convincing, it is not rational by its nature but addresses an intuitive type of epistemology.

Thomas of Aquinas, on the other hand, who was one of the most influential fathers of the Christian Church, taught that God had to be recognized by rationality; some remaining truths, which could not be proved on a rational basis, had to be believed. His theology of much rationalism, supported by some fideism, left very little room for personal religious experience and has been adopted not only by the scholastics of the Middle Ages but also by Protestantism.

In philosophic thought, Leibniz and Descartes were strongly influenced by ancient rationalism and Kant's rationalist position laid the tracks for later philosophical thinking. David Hume, on the contrary emphasized the important role of emotion and sentiment especially when it comes to moral decisions, but remained far less influential for later philosophy than Kant (Haidt, 2001).

Modern natural science partly left philosophical rationalism behind by claiming that scientific facts cannot be established by thinking alone but must be found by empirical observation. Positivism, in its naive form, started from observations of single events, generalizing them to all phenomena of the same class. Still being influenced by Kant's rationalism, traditional empiricism only dealt with phenomena which could be easily observed and replicated. For instance, during the 20th century, only very few psychologists of the Western school of thought would have dared examining religious or spiritual experiences, taking them seriously as empirical "data", but rather operationalized an individual's degree of religiosity by counting the frequency of his or her church attendance.

At the same time, traditional psychology has focused almost exclusively on theoretical thoughts and empirical data from North America and Central Europe, with special emphasis on the White middle class living in these parts of the world. Such findings were generalized to humankind in general without too much

consideration, assuming that people all over the world would act, feel, and think alike and according to the "Western" paradigm.

2.2 The Current Paradigm: Critical Rationalism (Popper, 2005/1935)

Karl Popper rejected the position of positivism which expected that science could verify its hypotheses by generalization ("induction") from empirical observations. For example, a hypothesis that birds cannot speak English might be mistakenly "confirmed" as long as only pigeons, swallows, or eagles are observed. One day, however, when observing a parrot, the ornithologist would have to reject his or her hypothesis when the parrot is uttering some English words. Something quite similar happened to astronomy; since ancient times astronomers have erroneously interpreted their observations as confirming their theory about the Earth being the centre of the universe, until their assumption was disconfirmed by new observations.

Thus, following Popper's position of critical rationalism, theories never can be verified but only falsified by induction from a limited number of empirical observations. Following Popper, the central requirements of a valid scientific theory are (1) its falsifiability and (2) the fact that up to now it has not been falsified. For example, psychoanalysis cannot be granted the status of a scientific theory because its predictions lack the criterion of falsifiability (e.g., if psychoanalysis predicts that I would hate my father, this prediction will be confirmed in any case: If I happen to behave aggressively against my father, the prediction will be correct anyway; if I behave toward him in a friendly way, however, the prediction will also be correct, because my friendliness will be interpreted as an indication of "unconscious" aggression, which had been turned into its opposite). Conversely, though their predictions are falsifiable, astrology or alchemy will be denied the status of science because their assumptions in fact have been falsified on many occasions (Chalmers, 1999). According to Critical Rationalism, theories are rejected or modified, as soon as hypotheses derived from them have been falsified on empirical grounds.

Current empirical psychology has adopted Critical Rationalism and applied it to the examination and explanation of human behaviour and experience (Bortz & Döring, 2005). This has been done successfully, as long as phenomena were examined which largely were part of the biological nature of human beings (e.g. the laws of perception, basic processes of learning, mental disorders which largely result from brain dysfunction, to name only a few examples).

As Nelson (2009) puts it, "Psychology [...] tends to limit acceptable experience to things that can be directly observed by an investigator" (p. 44). Until the turn of the millennium, empirical psychology has restricted its scope to phenomena which follow similar laws as biologic phenomena. In its most stringent form, behaviorism, psychology even limited its scope of interest to phenomena which are not specific for humans or other primates but can be equally observed in rats, guinea-pigs, mice, or pigeons.

Although radical behaviorism has been overcome since decades, until recently self-evident experiences like love, hate, spirituality, religious experience, NDE, OBE, but also genius, creativity, and emotional phenomena in general were largely neglected by empirical psychology. Some of these phenomena still are disregarded as not qualifying as suitable objects of scientific enquiry.

2.3 Kuhn's "Normal Science" and Feyerabend's Critical Stance

Kuhn (1979) has coined the term of "normal science" pointing to the fact that, characteristic of the respective era, there are – often implicit rather than openly expressed conventions among scientists with respect to the question which paradigms constitute the current state of the art. Of course, such paradigms not only include ways of explanation (e.g. a materialist-reductionist vs. a metaphysical approach) but also include the question, what constitutes a legitimate object of scientific enquiry (for example, behaviorists would not have accepted love, genius, or creativity as legitimate objects of their studies). In contrast to Popper's point of view, according to Kuhn (1979), paradigm shifts do not follow from falsification of previous

theories but rather are consequences of societal change to be understood rather on sociological than on scientific grounds.

Feyerabend (1983) went even further but identifying a kind of dogmatism on the part of society which superimposes the current scientific worldview on individuals, for example by financial funding of certain scientific approaches as opposed to others. In the light of these considerations it can be well understood that current psychology tends to exclude certain types of self-evident experience as "inapt" candidates of empirical study – not so much on rational grounds, but rather on the basis of convention among the scientific community according to the zeitgeist (for a summary see Chalmers, 1999).

2.4 Constructivism and Post-Modernism

In the tradition of previous forms of skepticism and starting from the findings of cognitive psychology, constructivism, at least in its radical form denied that humans would be able to recognize "reality". Any knowledge of real things would only be an artefact of the sensory system and the human brain. In this sense, each human being is said to "construct" his or her subjective reality – a standpoint which also denied the possibility of "true" religious experience (e.g., Katz, 1978). In its most extreme form, constructivism may even deny the existence of "reality", which is reduced to a mere subjective product of the individual's cognition. Such a point of view can be criticized on the grounds that, taking its line of argumentation seriously, one had to deny not only the reality of the world but also the reality of the individual him- or herself who is said to construct this reality. Thus, more moderate versions of constructivism have been developed which suggest that an individual's perception of and cognition about reality is influenced by his or her social environment and learning history (Frerichs, 2000).

Developing the constructivist standpoint further, post-modernism held an entirely relativistic view, according to which objective knowledge about the world cannot be obtained at all. Influenced by Marxism and some elements adopted from psychoanalysis, post-modernism also developed political critique against "modernism's" enthusiastic belief in continuing scientific progress. At the same time, post-modernism was extremely skeptical against spiritual and religious believes and experiences (Stanford Encyclopedia of Philosophy, 2005).

2.5 A More Open-Minded, but still Conservative Position (Sharf, 2000)

Popper's critical rationalism as well as the later developments summarized in points 2.2, 2.3, and 2.4 implicitly agreed that spiritual or religious experiences could not be regarded as serious candidates of scientific enquiry. The question, how the immortal spirit could interact with the mortal brain and its psychological phenomena only occasionally had been addressed by traditional science (e.g., Popper & Eccles, 1981), but such attempts received little attention by "normal science" (Kuhn, 1979), and were not followed up by the scientific mainstream.

On the contrary, Sharf (2000, p. 267) emphasized the central role of experience in religion, pointing to the multiplicity of meanings of the word "experience" and especially "religious experience" (p. 268). In his contribution to a series of articles in the Journal of Consciousness Studies with regard to cognitive networks and their role in religious studies, Sharf (2000) emphasized two central aspects of experience, (1) empiricism and (2) cultural pluralism. First, this author summarized the conventional stance of current philosophy of science, claiming that (a) scientific progress must be based on empirical data and (b) spiritual experience cannot be investigated in a proper scientific way:

> "By empiricism I refer to the notion that all truth claims must be subject, in theory if not in fact, to empirical or scientific verification. (...) Religious truth claims were not to be understood as pertaining to the objective or material world, which was the proper domain of science, but to the inner spiritual world, for which the scientific method was deemed inappropriate". (Sharf, 2000, p. 268).

The second central point brought forward by Sharf (2000), "cultural pluralism" pertains to the

multiplicity of religious experience, depending on the respective cultural background – a point which we will discuss later (cf., Sections 5.4 and 6.3).

In contrast to traditional concepts of empiricism, Sharf (2000) differentiated between two conceptions of experience. Apart from an everyday meaning of the word (in the sense of "I have experience with dogs"), the word "experience" may be used in an epistemologically more challenging meaning in the sense of

> "to 'directly perceive', 'observe', 'be aware of', or 'be conscious of'. Here there is a tendency to think of experience as a subjective 'mental event' or 'inner process' that eludes public scrutiny. In thinking of experience along these lines it is difficult to avoid the image of mind as an immaterial substrate or psychic field, a sort of inner space in which the outer material world is reflected or re-presented" (p. 277).

Sharf (2000) emphasizes the special qualities of experience understood this way, namely its immediacy, its indubitability and irrefutability. Although the experienced details may be questionable, the fact that an experience occurs is not, and thus, "[E]xperience, construed as the inviolable realm of pure presence, promised a refuge from the hermeneutic and epistemological vagaries of modern intellectual life" (Sharf, 2000, p. 277).

This line of argumentation recognizes the subjective importance of private experience, reaching far beyond the somewhat narrow-minded view of traditional empiricism. In spite of that, Sharf (2000) negates a serious epistemological power of immediate insight and evidential experience. As an example for the fallibility of subjective experience he names the reports by people claiming that they had been abducted by UFOs and, after thorough "medical" examinations by the aliens, had been brought back to Earth.

In the light of such possibly erroneous subjective experience and reports thereof, Sharf (2000) rejects the idea of taking inner experience seriously as a source of knowledge in studying religion. He rather recommends obtaining such knowledge from the Scripture, from religious writings and tradition because, according to this author, "the term experience cannot make ostensible a something that exists in the world." (Sharf, 2000, p. 285). Sharf even denies that Buddhism and Hinduism would have a strong experiential basis, claiming that this notion was superimposed by Western scholars who had been preoccupied by their personal experiential understanding of religion. Thus, although redefining experience within a broader scope than it was the case in traditional empiricism, Sharf still does not assign the same epistemic value to self-evident experience which he assigns to conventional methods of scholarship and scientific enquiry.

3. The Current Paradigm Shift in Empirical Psychology

3.1 Back to the Roots: Erklären vs. Verstehen and the Role of Emotion in Current Approaches to Morality and Religion

The German philosopher Wilhelm Dilthey (1894) (for a recent account see Feest, 2010) suggested two possible approaches towards gaining knowledge about humanity. Whereas problems of (natural) science should be approached rather by erklären (explaining), complex forms of human action rather call for an intuitive approach by verstehen (understanding). In other words: whereas erklären (explaining) attempts to analyze the causes that have led to an event, verstehen (understanding) is aiming at finding out the actor's intentions or purpose toward which a certain action was aimed. For example, Kluckhohn (1951) argued, although cautiously, against a reductionist approach to human values:

> "...the social science abstraction 'value' is not abstracted from neurological properties but from verbal and nonverbal behavioral events. These internalized symbolic systems do have a special status as regards methodology, requiring in part, at present, a verstehen rather than an erklären type of interpretation" (p. 396).

Psychology has now widened its scope towards phenomena like creativity (e.g., Squalli

& Wilson, 2014), genius (e.g., Simonton, 2014), or wisdom (e.g., Glück & Bluck, 2013) which are accessible only to a quite limited number of individuals, but still are regarded as serious objects of empirical study in modern psychology.

A famous example of a plea for "understanding" as an empirical approach in psychology is William James' (1902/2014) account of the various forms of religious experience. To name only a few examples from James' account, quite obviously, exciting spiritual experience, mystic insight into the divine, or sensing the presence of God or a deity are psychological events which rather can be understood than explained by methods of natural science.

Unfortunately, as outlined above, a verstehen approach has not been followed up by scientific psychology in the course of the 20th century. By the turn of the millennium, however, a paradigm shift seems to have taken place in the social sciences. Kahneman received the Nobel prize in economics in 1997 for showing that we are not functioning as a homo oeconomicus but also are influenced by irrationalities, for example when making decisions. Julius Kuhl (e.g., Kuhl & Fuhrmann, 2008), for example, postulated a human information processing system which processes information faster and more complex than our consciousness is able to do. He called it "intuitive" or "systemic" intelligence, processing information in different complexities simultaneously.

Kohlberg's (1969) strictly rationalist developmental model of moral decision making has soon be criticized, e.g. by Carol Gilligan (1982) because of omitting issues of caring for others from the moral domain. Quite characteristic for the time, however, Gilligan's critique was not taken seriously and Kohlberg's rationalist theory could be found in all textbooks on introductory psychology. In his social-intuitionist model of moral reasoning, however, Haidt (2001) argued convincingly that moral decision making is not primarily taking place by rational but rather by intuitive and emotional processes. In a second step, when the "gut" decision has already been made, it is argued on rational grounds. Haidt (2001) showed this by examples of objectively harmless, but morally

disregarded actions like for example consensual, safe sex between an adult brother and his adult sister or using the flag of one's home country as a cleaning rag for one's bathroom. At first glance and within less than a second, one feels or knows intuitively that the action is morally wrong. In a second step, one argues on rational grounds in order to support the decision already made before. By employing moral scenarios or dilemmas to be solved by the participants Haidt, Koller, and Dias (1993) found that moral decisions rather followed the participants' moral emotion or intuition than rational arguments with regard to their decisions' objective outcome.

On the basis of fMRI studies, Damasio (1994) examined the role of somatic markers accompanying emotions in moral decisions and Lakoff & Johnson (1999) pointed to the power of metaphors (e.g. "purity" vs. "filth") in evoking moral emotions or intuitions.

As far as religion is concerned, already Friedrich Schleiermacher (1768 – 1834) emphasized the central role of religious experience and emotion. According to Sharf (2000),

> "Schleiermacher's strategy proved fruitful: the notion of religious experience provided new grounds upon which to defend religion against secular and scientific critique. The 'hermeneutic of experience' was soon adopted by a host of scholars interested in religion [...] and today many have a difficult time imagining what else religion might be about" (p. 271).

James (1902/2014) pointed to the primary role of emotion as the basis of religious experience, though without neglecting the role of rational thought as an a posteriori process:

> "I do believe that feeling is the deeper source of religion, and that philosophic and theological formulas are secondary products, like translations of a text into another tongue [...]. [...] in a world in which no religious feeling had ever existed, I doubt whether any philosophic theology could ever have been framed. I doubt if dispassionate intellectual contemplation of the universe, apart

from inner unhappiness and need for deliverance on the one hand and mystical emotion on the other, would ever have resulted in religious philosophies such as we now possess" (p. 284)

Citing the famous British author Henry Fielding (1902), James continues:

> "'Creeds', says the author, 'are the grammar of religion, they are to religion what grammar is to speech. Words are the expression of our wants, grammar is the theory formed afterwards. Speech never proceeded from grammar, but the reverse. As speech progresses and changes for unknown causes, grammar must follow' (p. 313)" (James, 1902/2014, p. 288).

3.2 Transpersonal Psychology

Wilber (2000), one of the most prominent proponents of Transpersonal Psychology, successfully left a naive materialistic point of view and as a contribution to the Human Consciousness Project, emphasized the independence of immaterial "mind" on the one hand and the material "brain" on the other. Most importantly, a universal, inter-cultural approach was employed. On the one hand, he differentiated numerous "Levels or Waves" (p. 146) of consciousness, representing developmental stages, both within the individual and in humankind; on the other hand, he presented empirical evidence for different "Lines or Streams" (p. 148) of consciousness, representing, for example, cognitive vs. emotional vs. spiritual issues. These may be experienced at various "States of Consciousness" (p. 149). These states may occur spontaneously like waking or sleeping or may be induced or enhanced by psychedelic drugs (Grof, 1998).

Critics of transpersonal psychology put forward that its theoretical basis is inconsistent and empirical studies are anecdotal by their nature (e.g., Elmer, MacDonald, & Friedman (2003). De Quincey (2000) seriously questioned Wilber's (2000) theoretical framework, mainly by pointing to a neglect of the emotional quality of experiences: "...in the great hierarchy of his system feeling and emotion are clearly not only 'sub-rational', but also epistemologically inferior" (p. 183). De Quincey (2000) especially criticized

that interpersonal communication of experiences according to Wilber, would be based merely on linguistic exchange, neglecting its emotional quality. Thus, as de Quincey (2000) put it, "Wilber's grand edifice has a kind of robotic quality – [...]" "there's 'nobody home'" (p. 206).

In summary, Transpersonal Psychology may be seen as a promising step to the right direction, by seriously considering spiritual and inter-cultural aspects of human experience as the targets of scientific enquiry. The above mentioned points of critique may result from the fact that Transcultural Psychological was developed quite independently from the established schools of empirical psychology. Thus, Transpersonal Psychology does not anticipate the purpose of the present paper, namely integrating self-evident, especially spiritual or religious experience into the framework of empiricism as the current paradigm of academic psychology.

3.3 A Universal View of Morality: Replacing Western Hegemony by Cultural Psychology

Traditional psychology did not seriously distinguish between different cultures and rather expected "one", namely "Western" psychology to work sufficiently well all over world. In contrast, Shweder (2000) and Shweder, Haidt, Horton, and Joseph (2008) proposed that all human beings shared a universal mind, in contrast to their culturally specific mentalities. Accordingly, there are culturally specific emotional experiences and their respective somatic correlates.

Moral experiences are primarily emotional and self-evident by their nature (Haidt, 2001) and may be expected to be linked to spiritual or religious experiences. Therefore, Shweder's universal approach to morality is an important feature to be added to the present considerations. According to Shweder's Cultural Psychology, there are three universal moral principles which are represented to differing degrees in various cultures (Shweder, Much, Mahapatra, & Park, 2003; Shweder et al., 2008):

(1) The Ethic of Autonomy emphasizes emotions related to personal well-being, freedom and independence. Any action which does not infringe other people's rights is morally acceptable. This ethic typically is endorsed by

White, middle class U.S. citizens (Haidt & Hersh, 2001; Haidt & Graham, 2007);

(2) The Ethic of Community is characteristic of African and Asian cultures. Collectivist values pertaining to one's family or clan, loyalty, and self-control as well as social hierarchy are emphasized. Central moral emotions have to do with the person's honor, with heroism, and standing in for the community (Shweder et al., 2008);

(3) The Ethic of Divinity, has been studied by Shweder in the Indian culture. Its central assumption is that humans and animals have divine spirits inherent to them. Moral emotions pertain to observing eating habits, and preventing pollution of one's spirit which could happen as a consequence of disgusting behaviour (Shweder et al., 2008). Religious people in Western countries observe the Ethic of Divinity e.g., by their respecting of God and the Scripture, or by disregarding abortion, divorce, or suicide (Jensen, 1997).

Haidt and Kesebir (2010) pointed to the fact that conventional psychology almost exclusively focused on the typically Westerns Ethic of Autonomy, thereby neglecting moral or ethical experiences linked to the Ethics of Community and Divinity. This Western morality only encompasses caring for others, avoiding harm to them as well as issues related to fairness. On the basis of a review of the literature, however, Haidt and Joseph (2004) hypothesized a total of five moral foundations worldwide – the first two of them representing the Ethic of Autonomy, number three and four the Ethic of Community, and number five the Ethic of Divinity:

"1. Harm/care: Concerns for the suffering of others, including virtues of caring and compassion.

2. Fairness/reciprocity: Concerns about unfair treatment, cheating, and more abstract notions of justice and rights.

3. Ingroup/loyalty: Concerns related to obligations of group membership, such as loyalty, self-sacrifice, and vigilance against betrayal.

4. Authority/respect: Concerns related to social order and the obligations of hierarchical relationships, such as obedience, respect, and the fulfillment of role-based duties.

5. Purity/sanctity: Concerns about physical and spiritual contagion, including virtues of chastity, wholesomeness, and control of desires." (Haidt & Kesebir, 2010, p. 822).

The fifth Moral Foundation, "Purity/sanctity" has an obvious relationship to self-evident experiences which are religious or spiritual by their nature.

4. Self-Evident Religious or Spiritual Experience: A Western Account

Later endeavors to bridge the gap between science and religion were anticipated by William James' foresight:

"Let empiricism once become associated with religion, as hitherto, through some strange misunderstanding, it has been associated with irreligion, and I believe that a new era of religion as well as of philosophy will be ready to begin" (James, 1967, p. 314)

4.1 Scientific Approaches can be Applied to Theology by the "Empirico-Critical Method" (Yee, 1987)

Taking up a distinction made by Crombie (1959), Yee (1987) differentiated a "philosophers' philosophy of science" from a "scientists' philosophy of science" (p. 2). The philosophers' philosophy of science can be traced back to the strictly rationalist approach introduced by Aristotle, which was taken up by Thomas of Aquinas and consequently shaped the worldview of Christian theology till today. First, this approach was challenged by the scientists' philosophy of science as soon as empiricism emerged with Copernicus, Galileo, and Newton. The disagreement between the two positions reached its peak with Darwin's teachings about the role of natural selection in the development of species and Mendel's experiments on genetics. According to Yee's (1987) detailed analysis, the conflict between the Church and empiricism cannot be reduced to questions about the factual

truth of physics, astronomy, or biology but rather is a conflict of metaphysics, epistemology, and methodology. In other words, the conflict pertains to the question what kind of reliable knowledge exists, and how it can be found.

Whereas during the past century tremendous progress in humankind's knowledge has been attained by the scientists' philosophy of science, theology continued adhering to the philosophers' philosophy of science and consequently lost plausibility in public opinion. Yee's (1987) main concern is to reconcile theology with the scientists' philosophy of science by showing that theological problems can be tackled successfully by empirical methodology.

According to Yee's (1987) line of argumentation, Popper's falsificationism was a progress as compared to naive positivism, but still adheres to an idea of objectivity which is not supported by scientific practice. She points to the fact that scientific knowledge is not always acquired along the lines of "objectivity", naming as an example Pasteur's immediate, intuitive insight about the protective effect of vaccines. At the same time Yee (1987) criticizes relativistic or constructivist approaches according to which scientific knowledge is defined subjectively by the scientists themselves in an elitist way. In her search for a balance between both errors, an overly optimistic search for objective truth on the one hand and subjective relativism on the other, Yee emphasized that scientific observations always are made within a pre-existing theoretical framework which also includes that "a knowing subject is necessarily involved before that which can be known is actually known" (p. 81). In other words, scientific experience is subject to the "Organizing Concepts" (p. 86) or "conceptual pattern" (p. 89) imposed by the observer's a priori knowledge and expectations (cf., Section 6.3). Thus, observations are interpreted rationally a posteriori, i.e., "we seek an intelligible explanation of what we have observed by reasoning back from our observation" (p. 89). Accordingly, "rational procedures are as fundamental as sensory ones in the making of scientific judgments" (p. 90). Thus, Yee argues further, objectivity cannot be achieved by scientific methods alone but must adhere to theoretical plausibility (cf., Section 6.1).

Citing Hesse (1972), the author argues that already during the eighties of the 20th century the previous dichotomy (as claimed e.g. by Habermas, 1978) of strictly experimental, quantitative methods (suitable for natural science) on the one hand and hermeneutic methods (suitable for the humanities) on the other, has been given up in favour of a continuum between the two extremes.

The world cannot be explained sufficiently by fully observable entities and events alone. Rather, the observer is the "knowing agent [who] must be taken into account in any analysis of knowledge (Yee, 1987, p. 210). In preparing her model of "theological realism" (p. 231), Yee refers to Harré's (1986) triadic epistemology: "Type 1 Theories are concerned with cognitive objects with pragmatic properties, Type 2 Theories are concerned with cognitive objects with iconic properties and Type 3 Theories are concerned with cognitive objects with mathematical properties" (p. 232). Objects accounted for by Type 1 Theories can be observed directly (e.g., a horse), those accounted for by Type 2 Theories require special instrumentation to be observable (e.g., microorganisms), whereas objects referred to by Type 3 Theories cannot be observed (e.g., human personality). Though their objects are unobservable, inferences can be made on Type 3 Theories from observations. In the present context, theological entities and concepts, e.g., Christ's Resurrection are named as examples for objects or events accounted for by Type 3 Theories. Although the theories of the three types must be dealt with different degrees of certainty and reliability, in principle, the above mentioned empirico-critical continuum ranging from strictly experimental to hermeneutic procedures can be applied to each of the three types of theories.

According to the position of theological realism, theological facts, being attributable to Type 3 Theories underlie the same epistemic principles as any other facts and can be attended to by empirico-critical methodology: "the situation is not different in theological knowing" (Yee, 1987, p. 279). These facts are revealed by God to humans in the first place by "images" (p. 279). To put it differently, "theological concepts such as Resurrection, Incarnation and Trinity

which signify the reality of God's action in the world are apprehended through the symbolic/metaphoric processes of thought" (p. 279). In the way of these psychological experiential events, empirico-critical inquiry can be applied. When doing so, as with any other experience or observation, the above mentioned interpretative processes must be taken into account, as no human perception is an exact representation of objective reality.

Referring to Farrer (1966), Yee (1987) pointed out that knowledge about God can be obtained in three possible ways. Such insight can be mediated (1) by the external world, (2) by our knowledge of important religious events in the past, as reported for example in the Bible, and (3) by experiencing ourselves. Importantly, such "images" perceived by humans, and possibly transmitted to future generations by tradition are not identical with revelation per se. As far as methodology is concerned, reports about religious experience usually call for a hermeneutic rather than a strictly experimental approach on the empirico-critical continuum. Summarizing, Yee (1987) indicates that scientific methodology can be applied on theological questions, provided that such a "comprehensive model for knowing" will "at least incorporate the agent as knower and the fact that knowing involves both rational and empirical procedures" (p. 348).

4.2 Empirical Arguments for God's Existence (Swinburne, 2013)

Swinburne's (2013) line of argumentation focuses on the religious experiences of countless individuals over thousands of years. Swinburne first points to the fact that for eighteen centuries for almost every philosopher the basic convictions of Christianity were beyond doubt (cf., Franks Davis, 1989). According to Swinburne, although certainty about God's existence cannot be reached empirically, the probability of God's existence can be estimated by logical argumentation and empirical data.

4.2.1 Explanatory Dualism

Along the lines of the dichotomoy of erklären vs. verstehen (cf., 3.1), Swinburne (2013) pointed

to "two different ways of explanatory events" (p. 199), "scientific explanation" and "personal explanation". Whereas scientific explanation deals with the (materialist) causes preceding an event, personal explanation takes a teleological stance with regard to human action, emphasizing the intended goal and purpose of this action from this person's subjective point of view: "The intention in an action that an agent is performing is not the same as any brain event" (Swinburne, 2013, p. 40). The latter argument already implies the conception of an actor who behaves, thinks, and feels in some way independently from his or her brain functions. It is important to note that, following Swinburne (2013), "personal explanation" by no means must be regarded as inferior to scientific explanation.

4.2.2 Two Kinds of Ontological Dualism

In the later course of his argumentation, Swinburne gets to the point of his position: "The [...] physical properties [of the brain] are utterly different from the mental properties of thought and feeling that pertain to souls" (Swinburne, 2013, p. 204). From an ontological point of view, (1) "events" and (2) "substances" can be distinguished. Both entities, events and substances, exist (a) in a "pure mental" and (b) in a "physical" (p. 199) form.

4.2.3 Plausibility of Explanations

In line with traditional philosophy of science, Swinburne (2013) judges an explanation's plausibility by two criteria, namely (1) its "prior probability" and (2) its "explanatory power" (p. 80f.). An explanation's prior probability increases with its "simplicity" and with its support by previous experience. Its explanatory power increases if the explanation accounts for a phenomenon which would be highly improbable if the present explanation would not be applied.

4.2.4 The Principle of Credulity and the Principle of Testimony

According to the "Principle of Credulity" (Swinburne, 2013, p. 310ff.), people usually may be expected to perceive reality reliably as it is. Similarly, the "Principle of Testimony" (p. 322ff.) assumes that people usually may be expected to report their experiences correctly.

4.2.5 Religious Experience as a Probabilistic Argument for the Existence of God

The "prior probability" for the existence of God can be regarded as substantial, taking the classical philosophical arguments for his existence into account (e.g. "argument from design", "argument from the existence of consciousness", "arguments from miracles and revelation", "argument from religious experience", Swinburne, 2013, p. 10). In contrast to traditional philosophy, these arguments should not be considered one by one in isolation, but rather should be regarded in a cumulative way (like a detective investigating a crime, who collects different indices which in sum may suggest an extremely high probability of a specific individual having committed the crime).

God can be perceived (1) in an epistemic way in an object that has no immediate spiritual meaning (e.g., in nature), (2) in an apparition or vision, in dreams or other "private" encounters which (3) can or (4) cannot be communicated by everyday vocabulary; finally, (5) God can be perceived by getting "aware" of his presence without a sensory impression. According to Swinburne (2013) "there is no doubt that millions [of people] […] had religious experiences. Indeed, that statement rather underplays the situation. For many people life is one vast religious experience" (p. 301).

Taking the substantial "prior probability" and the "simplicity" and the "explanatory power" of the hypothesis that there is a God into account, and considering the Principles of Credulity and Testimony, thousands of reports on religious experience (cf., 4.5) must be taken seriously, suggesting that "the evidence of religious experience is […] sufficient to make theism overall probable" (Swinburne, 2013, p. 341).

Conclusion and Perspectives

This paper focuses on the relation of psychological science and religion (spirituality). Religion being far older, both fields have developed independently from each other in the West. The dialogue between the two branches was hindered by a traditional distance from religious pursuits kept by psychology and by the longstanding critique of the scientific method on the part of theology. Now, by the turn of the Millennium, on both parts some readiness to learn from each other can be observed. Starting from this paradigm shift, the first part of this paper elaborated current theological approaches toward probabilistic arguments for God's existence. These arguments are essentially based on the cumulative experience of mystics during thousands of years.

The second part of the paper will take up these considerations and develop them further within the epistemological framework of empiricism. Thus, Part 2 will undertake initial steps in preparing an empirical approach to the psychology of self-evident, especially religious or spiritual experience, by applying Popper's critical rationalism to the study of such phenomena. These suggestions will be based on the criteria of falsifiability which will be derived from theological literature. The ideas will be supplemented by the Indian point of view on self-evident spiritual experience. In this respect, Western scientific methodology is expected to benefit from Eastern philosophy of science.

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