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# Animal Mind as Approached by the Transpersonal: Notion of Collective Conscious Experience

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The discussion of animal mind in this paper is based on an idealist philosophy contending that only conscious experience is real, based on the transpersonal notion of collective conscious experience. The latter has earlier been explained by the author as experience referred to a group of humans as the subject, the We. Here it is contended that also a group of humans and animals can be seen as the subject of collective conscious experiences. The author argues that the notion of collective conscious experience provides a possibility for studying the problems of animal mind and the related human problem of “other minds” in a detailed and rational way.

In previous papers, the author has attempted to develop an idealist ontology and philosophy contending that only conscious experience is real (Randrup, 1997a, 1999, 2002, 2003, 2004). This view agrees, principally, with various brands of idealist philosophy known from the literature (e.g., see Randrup, 1997a, p. 20; Knight, 2001; Merrell-Wolff, 1973, p. 145). In my view, conscious experience can only be known directly or intuitively and not through the use of rational explanation alone. By extension, science may be regarded as a catalogue of selected conscious experiences (“observations”) that are organized by means of concepts and theories which themselves can also be understood as conscious experiences. Though this conception of science challenges the currently dominant materialist ontology in the natural sciences, it does maintain the methodological presupposition that all scientific research rests on empirical observations from which concepts and theories are derived.<sup>1</sup> What conventional science usually calls “material objects” or “material things” are regarded in my model of science as heuristic concepts (also regarded as conscious experiences) useful for expressing observations within a certain domain with some of their mutual relations. This reinterpretation of materialist objects allows the understanding and use of theories of materialist science without accepting their ontology (Marshall, 2001, p. 60; Randrup, 1997a, section 4). The idealist ontology emphasizes the role of the evi-

dence (“observations”) in science and is particularly open to new experiences, the formation of new theories, and the application of more than one theory and set of concepts to a domain of observations (Lindsay & Margenau, 1949, pp. 1-3; Randrup 1992, 1994, 1997b; Wallace 1996, pp. 25-27, 113-114, 148-150, 190).

Berger and Luckmann (1966) define reality as a quality associated with phenomena that we regard as existing independent of our own volition; we cannot wish them away. I think this definition comes close to my idealist conception of scientific reality as described above, and also to the definition of “Wirklichkeit” by Dietrich.<sup>1</sup> Berger and Luckmann regard reality as constructed and defined by social groups. This agrees with the emphasis on the intersubjectivity of science made in this paper, and I think that this position can also be regarded as close to the transpersonal idea of collective conscious experience described below.

Idealist philosophy is useful for resolving inconsistencies and contradictions in materialist science consequential to the assumption of a world “out there.” Such problems exist in mainstream science within the disciplines of evolutionary epistemology, neuropsychology, second order cybernetics, statistics, and physics (Randrup, 1997a). In evolutionary epistemology, a contradiction has emerged between the belief in a material world independent of the human observer and the equally firm belief that all our thoughts and

cognitions (including the assumption of a material world) depend on the human cognitive apparatus in its present stage of evolution. Indeed, in the light of evolutionary epistemology, the assumption of an independent material world appears to be self-contradictory. Diettrich (1995, p. 96) thinks that this assumption is due to an untenable circular inference. This fundamental problem in evolutionary epistemology can be overcome by application of the idealist philosophy presented here, since material reality is not part of this view. Here every immediate conscious experience has relations to other conscious experiences, and these relations are not in mutual contradiction (Randrup 1997a, p. 18; 2004).

Idealist philosophy is also useful for resolving the mind-brain problem (also known as “the hard problem” in materialist philosophy and conventional science). For the materialists, it is difficult to imagine how conscious experiences are produced by the material brain, but in idealist philosophy it is not difficult to understand the formation of the heuristic “material” concepts (including the concept of a “material” brain) from observations. In fact, such formations are described comprehensively in the scientific literature (e.g., the formation of the new concepts in quantum physics; Mehra & Rechenberg, 1982).

The idealist ontology of nature also readily accommodates the intense and unitive nature experiences known as nature spirituality (Randrup, 1997a). These intense, direct nature experiences are felt by the experient to be essential and important, indicating that they must be real and that nature primarily is an experience. These spiritual experiences are thus felt to be in conflict with the materialist view that nature exists separate from and independent of the “observer.” Also, on more secular grounds, many people resist the alienation from nature entailed by strict materialist realism and tend to retain a naïve (direct) realism, where material nature is believed to be as perceived.

Idealist philosophies have often been met with the objection that they lead to solipsism—only “my” experiences exist. This objection, however, seems untenable. I have argued that collective conscious experience may be considered as a viable alternative or complement to individual experience. A collective experience is regarded as one experience associated with a group of persons as the subject, the We, and related to all the brains of this group. This is an alternative to the ordinary assumption that if several persons have the “same” experience (a scientific observation for

instance), then each of them has a copy of that experience in his individual mind and related to his individual brain (Randrup 1997a, 1999, 2002, 2003, 2004). Also the occurrence of egoless experiences indicates an alternative to solipsism (Randrup 1997a, pp. 21-22, 1999, 2003).

Indeed, knowledge generally (as well as concepts) cannot be individual at all. From its discovery and subsequent elaboration, all knowledge is shaped by communication and education. This view is supported by several reflections in the literature. Berger and Luckmann’s book (1966) on the social construction of reality was mentioned above, and Jørgensen (1963, p. 176) describes in detail how two persons can arrive at common names of certain phenomena such as “head,” “arm,” “green,” and so forth by making observations together and communicating about the names. He contends that originally we have all learned the names of things and their properties in this way; in science further education and communication has led to the technical terms. In a personal letter of March 20, 1999, Pierre Marchais asserted that the number 5 is an educational, not a subjective phenomenon, an example of collective knowledge. He told me that the 5 exists in me only because I have been taught arithmetic. These views are in agreement with the comprehensive work of Vygotsky, who found that social interaction has a formative role, a constructive function in the child’s development: certain types of higher mental functions such as deliberate attention, logical memory, verbal and conceptual thought, and complex emotions could not emerge and take form in the development process without the constructive assistance of social interaction (Ivic, 1994; Rieber & Carton, 1987). I find that the emphasis on social interactions conforms well with the notion of collective conscious experience.

I have often met the argument that if we kick a stone, we feel an effect (maybe painful), even if we have not observed the stone before. This is supposed to justify the supposition that material things exist independently of our mind. I have answered that in the idealist philosophy, the kicking of a stone and the effects that follow can be understood on the basis of regularities that exist in the occurrence of our perceptions.<sup>1</sup> Even if the first perception of pain may be experienced as irregular or even as a surprise, we can subsequently have visual and tactile perceptions that show the regularities of our perceptions in this case, including the first (painful) perception. Modern sci-

ence has emphasized the regularities of our conscious experiences in certain domains (particularly perceptions). These regularities were not so much attended to in more ancient times. Thus, it is told that the Greek philosopher Heraklit asserted that the same man could not bathe twice in the same river. This remains true, if we consider all the aspects of such an experience (aesthetic, emotional, perceptual, etc.), but science extracts from the whole experience certain aspects (mainly perceptual) that are repeated (for example, the DNA profile of the man) and can be agreed upon intersubjectively.

### Different Views on Animal Mind

In the present paper, I shall extend the notion of collective conscious experience of human groups to embrace also human–animal groups and I shall use this transpersonal notion as a basis for discussing animal mind and evolutionary aspects of consciousness. This differs from nearly all the previous discussions in Western science of which I am aware. My arguments are made on the presumption that if consciousness occurs in animals, it will be individual. Since we have no means for assessing individual conscious experiences in animals directly or with certainty, it is not surprising that opinions in the literature diverge widely.

In one extreme, some authors believe, like Descartes, that conscious experiences exist with humans only (Davis, 1997; Godlee, 2001; Kennedy, 1992, pp. 24, 33; Wynne, 1999). At the opposite extreme, de Quincey (1994, pp. 218-291, 2000, pp. 10-11, 2002) entertains the idea that consciousness goes “all the way down” to the beginning of evolution. In between these two positions, there are authors like Sandøe (1993, p. 92) and Varner (1998, chapter 2), who think the occurrence of consciousness is restricted to more highly developed animals, the animals that are most like humans.

Roth (1999) finds it likely that most tetrapods, including amphibia and reptiles as well as birds and mammals, possess at least simple states of consciousness such as awareness of sensory events, attention, knowledge, representation, and analogical thinking. He thinks that higher states of consciousness, taking the perspective of the other, and anticipation of future events are found only in primates, and that conscious states such as comprehension of underlying mechanisms, knowledge attribution, self-awareness, and the use of simple syntactical language seem to be restricted to the great apes. Roth states that the use of com-

plex syntactical language seems to be restricted to humans, but he finds that the relationship between higher states of consciousness and syntactical language remains unclear.

Humphrey (1982) gives a story of the emergence of consciousness in evolution, arguing that our animal ancestors could be percipient, intelligent, complexly motivated creatures without being conscious (clever brains, but blank minds). He is most inclined to believe that consciousness has developed with humans only but leaves open the possibility that it may occur also with nonhuman species having complex social systems, such as the social carnivores and the great apes. Popper (1987, pp. 150-151) contends that “we do not have the slightest idea, on which evolutionary level mind emerges” and writes about “the difficulty, if not the impossibility of testing the conjectural ascription of mental powers to animals.” Nielsen (1965, p. 75) writes with an uncertainty similar to Popper’s and states that we can neither prove nor disprove whether insects have conscious experiences (though he personally believes that they do). Likewise, Vorstenbosch (1997, pp. 33-34) argues that it is not possible to reach watertight conclusions on whether animal consciousness exists; he thinks we have to concede that we have no direct access to the supposed mental phenomenal states. Clearly, certainty or intersubjectivity has not been arrived at in this domain. In fact, and based on a firm belief in the individuality of consciousness, some philosophers even regard the ascription of conscious experiences to other humans as problematic; this is the philosophical problem of “other minds” (Griffin, 1998; Harnad, 1991; Wisdom, 1965).

In the following sections I contend that the transpersonal notion of collective conscious experience provides an opportunity to study the problems of the minds of other humans, animal mind, and the evolutionary aspects of consciousness in a more detailed and rational way, above the conjectural level.

### Conscious Experience With a Group of Humans as the Subject

In Western scientific and daily life, it is usually firmly assumed that the human mind or consciousness is individual; each person has his or her own conscious experiences separated from those of other persons. It is also generally assumed, however, that sometimes two or more persons may have the same experience. If, for instance, two persons read a meter with digital display, they read exactly the same value, 7.6 for example. This is at least tacitly assumed in mainstream science.

Indeed, an observation is regarded as scientific only when it is repeated by other observers (a new observation or a new concept may originate with one person, but then the scientific community will work to test if intersubjectivity can be obtained). Based on the assumption of the individuality of human consciousness, it is supposed that the same experience, 7.6 for example, is repeated in different individual minds or consciousnesses, transpersonal unification being obtained by means of an “objective” materialist entity, 7.6 volts for example.

I think, however, that when we deal with the same observation made by a group of persons, it is equally possible to regard this as one collective experience with the whole group as the subject, the *We*. Logically, both conceptions are equally possible. Collective experiences will, of course, be associated with changes in all the brains of the persons involved (persons including the “I,” and brains seen as heuristic constructs), while neuropsychology usually studies conscious experiences in association with one brain only. Here, I believe, is a domain for further experimental research.

In the example given above, reading of a meter, it is only the number read that is precisely the same or transpersonal for the group of observers. Agreement may not be reached with respect to other features of the whole perception, such as the color and aesthetics of the instrument.

With respect to colors, the argument has been raised that what for one person appears as red may for another person appear as green (and vice versa), and this would not be detected by communication, because both persons would have learned to call the grass green and the Danish flag red. This argument does not, however, affect an agreement on the two colors being different, and I will contend that this difference is a collective part of the color experience. Severely red-green color-blind individuals are not included in this collective experience, as can readily be shown by well-known tests for color blindness (color-blind people may, however, be able to distinguish colors by means of an apparatus).

Since many intersubjective observations, concepts, and theories exist in science, we may envisage that scientists, particularly people within one discipline, have a significant part of their consciousness in common, a collective consciousness. It is also possible to learn from fellow humans, particularly about conceptions and theories, and thus the collective experience can become richer than the individual one.

In the literature, several authors have discussed collective memory. Bryld and Warring (1998) have written a book about the Danish collective memory of the German occupation from 1940 to 1945. They describe the formation of this collective memory during the years after the war as being influenced by the need of the Danish people to regard themselves as resistance heroes and not as collaborators. Halbwachs (1975) has written a comprehensive general treatise about the social frames of memory. He argues that the notion of individual memory is insufficient and needs to be supplemented by group memory. Halbwachs employs terms such as “collective perception,” “collective representations,” “collective experience,” “collective reflections,” “collective thought,” and “collective memories.” I think that these terms can be seen as transpersonal, something like collective conscious experience.

Living and acting together can also give rise to the same experiences in a group of persons, and these may be regarded as collective experiences intellectually and also be directly experienced as such. Vaughan (1995) wrote,

The soul that empathetically identifies with both the pain and the joy of others begins to see that in the inner world we are not separated from each other. Peace and joy, no less than pain and sorrow, are shared, collective experiences. (p. 5)

And in a recent special issue of the journal *ReVision* entitled “Intimate Relationships and Spirituality,” several authors have given examples of experiences being directly experienced as collective or egoless by couples living and acting together in intimate relationships (Rothberg & Masters, 1998). Here follow some citations from this work:

“... they felt they were ... one soul residing in two bodies.” (p. 8);

Also, a deep spiritual bond—which may be felt during the most routine activities and even far away—may develop. Robert Bly uses the metaphor of the “third body” as a way of describing the transpersonal dimension that unites a couple. It is the “soul” of the couple as one respondent expressed it. (p. 23)

Holding to a sense of self and to the bond feels at times to be overwhelming. Repeated dancing back and forth—now self, now disappearing, wave to particle and back .... separateness and union.... (p. 9)



These examples show directly experienced, lived collective consciousness. The last example shows difficulties with reconciling the individual and the collective. Personally, I have experienced such difficulties too, a temporary fear of losing myself. But these difficulties have not been serious for me since the collective experience is or becomes as familiar as the individual experience. When an experience moves from individual to collective (by communication for example), my immediate feeling is that the subject of the experience changes from I to We, while the rest of the experience remains the same.

Based on comprehensive clinical experience, the Danish psychiatrist Brandrup (1996) writes about overlap or amalgamation between two or more personalities and their consciousnesses. This may happen between mother and child, psychotherapist and client, as well as in many other instances. Brandrup writes that such overlap may be perceived when a person tries intensely to familiarize himself with another person.

Carl Jung has written comprehensively about the collective unconscious. This might be regarded as something different from collective conscious experience, but the Jungian analyst Bernstein writes "...the collective unconscious...clearly implies a collective conscious" (Bernstein 1992, p. 25). And Bernstein (2000) has reported examples of directly felt collective conscious experiences. Likewise Young-Eisendrath and Hill (1992) think that Jung's later theory of archetypes and self is a constructivist model of subjectivity that accounts for the collective or shared organization of affective-imaginal life. Constructivism, they think, reveals the impossibility of mental separatism and recognizes the shared nature of mental processes that arise within an interpersonal field.

Gallagher (1970) writes about intersubjective knowledge and envisages "direct knowledge of the other." Referring to Scheler (1954), he considers an important, but also very sad example:

In some cases we may even speak, says Scheler, of one emotion shared by two selves. A father and a mother standing together by the body of their dead child have their grief in common. They are not here simply two consciousnesses, but two consciousnesses sharing one identical sorrow. They experience it as "our sorrow." In the face of such experiences, the problem of "other minds" loses all standing. (Gallagher 1970, pp. 382-383)

I would say that the shared emotion is a part of the collective consciousness of the couple. In various foreign

cultures, transpersonal (collective and relational) features of humans and their minds are emphasized at least as much as individual features (Randrup, 1999, 2003). I think this fact yields significant evidence, and I shall relate a few examples of this evidence.

I have had some contact with Japanese psychiatry and shall quote psychiatrist Okuyama, who has practiced both in Japan and in the United States. She writes about the three senses of self among the Japanese: the collective, the social, and the individual. Of these, the collective sense is seen as the most important and fundamental one. Okuyama states explicitly,

Japanese people commonly think that the self exists only in relationships with others.... our mind is thought to exist in a field of relationships. The self cannot be considered separate from the relationship field nor having as clear a boundary, as Western people imagine.... one of the conditions to be an adult is the ability to feel somebody else's or the group's feelings. (Okuyama, 1993, p. 29)

Arisaka (2001) writes in the same vein: "Intersubjectivity, in this light, is not a problem, but a foundational or constitutive aspect of our selfhood" (p. 198), and she quotes the Japanese philosopher Watsuji (1996):

My being conscious of you is intertwined with your being conscious of me.... in the relation of Being-between the consciousness of the participants are mutually permeated through one another's. (Arisaka, 2001, p. 200)

These views are difficult, or rather, impossible to understand on the background of a strictly individual concept of conscious experience. If, on the other hand, transpersonal collective consciousness is conceived intellectually and experienced directly as described above, this will open opportunities for understanding these foreign views and thus be helpful in cross-cultural studies.

Rosenstand's views on collective and individual self provide further help for cross-cultural understanding. She thinks that "We all know that 'I am me,' even if we don't use words such as 'self' or 'I.' But some cultures consider this knowledge of minor importance" (Rosenstand, 2002, p. 251).

Sorenson (1998) has made a sketch of the evolution of Western civilization suggesting that the state of consciousness and the ego have developed historically along with the development of agriculture. He first studied indigenous people living in isolated enclaves around the world more or less "untouched" by domi-

nant, conquering cultures. In these people, he found a state of mind which he calls pre-conquest consciousness. One of the characteristics of this consciousness is an empathetic, integrative, intuitive rapport between individuals. Sorenson found their way of life to be simultaneously individualistic and collective, each person constantly enlivening the others by a ceaseless, spirited, individualistic input into a unified at-oneness. He felt strongly that this way of life was very different from the ways of cultures to which Western Europeans were accustomed. Sorenson also observed that a rapid collapse of pre-conquest consciousness (sometimes within one week) occurred after contact with dominant cultures. Based on his analysis, he argues that a re-sketching of the civilizational process virtually suggests itself. He thinks that in pre-civilizational Mediterranean, people had the same type of consciousness, but with the advent of agriculture and later confinement, confrontation, and conflict, possessiveness evolved as a basic human trait. It is noteworthy that in a session at the World Congress of Philosophy in Istanbul in 2003, Sorenson openly endorsed the notion of collective conscious experience.

Jaynes too (1976) thinks that subjective consciousness and its accompanying separate-self sense is a relatively late cultural development, occurring 2,500 to 4,000 years ago. Jaynes thinks that before this development, people were signal-bound, that is, responding each minute to cues in a stimulus-response manner and controlled by those cues (p. 140). This reminds me of Sorenson's description (referred to just above) of the rapport between people in the pre-conquest cultures; perhaps further research will bring alignment between the views of Jaynes and Sorenson.

Experiences with the Internet have given rise to new thoughts about interaction and collectivity. Gackenbach, Guthrie and Karpen (1998) find that the most important characteristic of the Internet is its emergent collective properties, and de Kerckhove (1995) contends that the real nature of the Internet is to act as a forum for collective memory and imagination. He also thinks that online communications have created a new kind of permanence, a new stability of mind, a collective mind, in which one plugs in or from which one pulls out.

Suler (1999), who is credited for coining the term "cyberpsychology," has published comprehensive studies of experiences in connection with use of the Internet. Among other results, he has reported that some people feel as if their minds are merged or blend-

ed with that of the other person with whom they relate through e-mail, news groups, or chat rooms.

Sometimes I feel that experiences I have are not shared or only partly shared by persons with whom I communicate. This feeling and the corresponding intellectual judgement are based on the behavior, including verbal behavior, of the other person and myself. I may also wonder if the other person has individual experiences different from mine, and I may even think about the nature of such experiences. Those thoughts can, however, only be conjectural. I cannot know specific, individual contents of other minds, but what I feel and think that we share collectively, I know and experience directly. This is my answer to the philosophical problem of "other minds."

I conclude that the existence of collective conscious experiences with a group of humans as the subject is logically possible and has become well founded by the evidence now available.

### **Conscious Experience With a Group of Humans and Animals as the Subject**

With a few exceptions, all the discussions of animal mind in Western science that I know of have been made on the presumption that if consciousness occurs in animals, it will be individual. But since we have no means for directly assessing individual experiences of animals, these discussions suffer from a fundamental uncertainty. We cannot judge with reasonable certainty what an animal may experience individually, nor if it has any conscious experience at all. This uncertainty is shown clearly by the very divergent opinions on the content and existence of conscious experience in the various animal species mentioned above.

The transpersonal notion of collective conscious experience offers a new approach to the study of animal mind. I think it is logically possible to associate a certain part or core of a perception of mine, clearly related to the behavior of an animal, with the animal as well as with myself and thus regard it as a collective experience. For example, if I am in my sitting room with a dog and hear a noise outside, the dog will also react. I think that in this case some part of my sensory experience and the alerting effect felt can be associated with the dog too without entering any logical contradiction or observational impossibility. It can be reflected in detail, which part of my experience I can associate with the dog, and this admits of a more detailed and precise determination of the collective experience than would be possible if I tried to con-

struct the content of an individual experience of the dog. It is also possible to correct and develop initial decisions about what is collective. If, after a little while, the dog in the example looks out of the window in one direction, and I look in another direction, I cannot associate my belief about the source of the noise with the dog, but by further investigation by myself and by the dog this may become possible.

For another example, we can go back to the discussion of colors above. It has been shown by extensive behavioral and brain research that some animal species distinguish between colors such as red and green, while others apparently do not (Backhaus, Kliegl & Werner, 1998; Jacobs, 1981; Sinclair, 1985). I think that my own experience of the red-green difference can be associated with those animals that do distinguish, as well as with most humans (red-green color blinds excluded) to form a collective experience of a group of animals and humans.

With humans, verbal behavior and communication contribute much to the formation of intersubjectivity as emphasized by the phenomenological school of psychology at Copenhagen University (Tranekjær Rasmussen, 1968). Nonverbal communication and all forms of behavior are, however, also important with humans. For the exploration of animal-human collectivity, analysis of behavior can bring us a long way.

As an aside, above I have written on behalf of myself, writing "I," but when I write on matters on which there is intersubjectivity among humans, I can also write on behalf of a human-human collective (e.g., biological scientists) and then write "We," stating, for example, that we may extend our collective color distinction to comprise some animal species too.

By means of technology, we humans can extend our own observations to share, for example, the distinction between two forms of polarized light with bees. If we assume individual conscious experiences, we can imagine any number of ways the bees may experience polarized light.

On a philosophical basis, Avramides (2001) expresses a remarkable concept of mind, which, I think, comes close to the notion of collective consciousness. She suggests that we understand mind in relation to the behavior and capacities that we share with others. Avramides writes much about humans, but since we share an important part of our behavior and capacities with other species, animals (or at least certain animal species) may well be included in what she means by "others." Avramides emphasizes that the

conception of mind she developed is a general one, not restricted to one individual. The "subject must understand her being in pain as a particular case of a general type of state of affairs, someone's being in pain" (p. 271).

It has been stated that the animals live in the same world as we humans (Lorenz, 1973). In this statement, the shared world is believed to be the material world. The material world is not a part of the idealist philosophy proposed here, but the relation between animals and man expressed by Lorenz's statement still has meaning in this philosophy. Here the common world can be conceived of as a world of animal-human collective experiences. From the behavior of the various animal species, judgements can be made about how much of my (or of the human collective's) observational and conceptual world can be associated with each animal species, and from that, reasoned judgements can be made about the relation of consciousness to evolution. I think that generally we humans can associate more of our experiences with a dog than with an earth worm. However, as discussed below in the section on ethics, I still think that I can experience something collectively with an earth worm.

After having a collective experience, I can also later remember it when I am alone. I will then be the subject of the memory, but inside the memory, the group (human-human or human-animal) will be the subject, the We. The memory may be more clear if I am again together with the group; it seems probable that this is correlated with our brains exchanging signals (visual, auditory, olfactory, etc.) and working together to form a collective brain. I think there are possibilities for studying these phenomena experimentally. The notion of collective brain, or societies of brains, is entertained by Huberman (1989) and by Freeman and Burns (1996). In the most recent years, such notions have been strengthened by experience with computer networks.

Von Uexküll (1957) completed research on a number of animal species to assess the perceptual cues to which they react. He states that for each animal species, these cues correspond to a (small) part of the world as humans perceive and conceive it. In the context of idealist philosophy, his studies therefore seem helpful for further investigation of the extent of animal-human collective experience. As an example, the female tick is a small animal that is blind and deaf, but reacts to light because of a general photosensitivity of her skin. She also reacts to the odor of butyric acid and



to temperature differences, but not to anything else. The “Umwelt” (phenomenal environment) of the tick is restricted to distinction of these three features of the much richer Umwelt of humans, so this will be what we experience collectively with the tick. Von Uexküll asserts that he does not ask how butyric acid smells or tastes to the tick; he merely registers that butyric acid is a receptor cue for her actions. Von Uexküll (1957) discusses his studies of the tick and of the Umwelt of other animals in more detail, and these studies have been further reflected on by Emmeche (1990) and Sjölander (1984).

Based on his views on the historical development of mind and consciousness in humans, Jaynes (1978) reflects also on animal mind. For Jaynes, mind and consciousness are functional concepts, very different from my conception of consciousness as consisting of conscious experiences known directly. For the view of collective human–animal conscious experiences, Jayne’s paper contains, however, valuable arguments for considering critically how much we actually share with the various animal species and individual animals. Such valuable criticism also appears in the work of Searle (2002, pp. 61–76), who believes that “consciousness and other forms of mental phenomena are biological processes occurring in human and certain animal brains” (p. 70).

Felt communal emotions with animals are well known by a large number of pet owners, including myself. For instance, Levinson (1980) states that young children very readily identify with animals. Clinical observations in pet therapy indicate that some children unconsciously believe that they may be transformed into animals and that animals may become children. Levinson also thinks that, through identification with an animal, the child comes to feel stronger. He incorporates the pet’s strength.

Lasher (1998) thinks that the primary mode of communication between human and animal is attunement, defined as the mutual picking up of and responding to the subjective state of another creature. Lasher builds her conception of attunement on the work of Stern and states that attunement is experienced but does not necessarily involve the act of thinking about the experience. It is independent of human language and is a perceptual ability of human and nonhuman animals, which appears to be central to the way that animal and human mothers and infants communicate with each other. Stern’s own description of attunement comes close to what I here call collective

consciousness. He writes about intersubjective sharing of affect and also describes “selective attunements,” where some experiences can be shared with another person and others cannot (Stern 1985).

Adams (1999) writes about the relation between the poet Emily Dickinson and her dog Carlo. According to Adams, Dickinson’s writings suggest that Carlo served as a “selfobject” for her. The term selfobject, taken from Heinz Kohut’s self psychology, can be defined as the internalization and assimilation of another person such that they are experienced as part of the self.

Smuts (2001) describes her contact with a group of baboons: The baboons’ thorough acceptance of me, combined with my immersion in their daily lives, deeply affected my identity. The shift I experienced is well described by millenia of mystics but rarely acknowledged by scientists. Increasingly my subjective consciousness seemed to merge with the group-mind of the baboons. Although “I” was still present, much of my experience overlapped with this larger feeling entity. (Smuts, 2001, p. 299)

Smuts (2001) writes further about the meeting and merging of minds:

A seventh (and final?) level develops when individuals experience such a profound degree of intimacy that their subjective identities seem to merge into a single being or single awareness (at least some of the time). A personal example is the experience that Safi and I shared when we gazed for so long into each other’s eyes. (Smuts, 2001, p. 307)

Safi is her dog and they had lived together for ten years.

The Jungian psychoanalyst Bernstein (2000) reports in some detail the experiences of his client Hannah as they related to animals. At first, Bernstein suggested to Hannah that she projected her own feelings onto animals (cows, dogs) and initially she accepted this interpretation. However, soon she began to protest, and Bernstein too felt that something was missing, some part of Hannah was absent in his interpretation. Finally, he came to interpreting her feelings as identification with animals she experienced as abused. Prior to her work with Bernstein, Hannah could not distinguish between her own feelings and those of the Earth and the animals, and she also said that she could not distinguish her own pain and the pain of other people. Bernstein later got other clients with similar feelings and coined the term “Borderland Personality,” which he regards as a normal personality,

to be distinguished from psychopathological traits such as depression and neurosis. He states that these people feel (not feel about) the plight of animals that are no longer permitted to live by their own instincts and only survive in domesticated states. In 2004, Bernstein completed a book-size manuscript entitled *Living in the Borderland: The Pathological and the Sacred*.

Bernstein compares these Borderland phenomena with what he has heard from Native American Indian elders and healers and with the “participation mystique” observed in various native cultures by anthropologist Lévy-Bruhl. By “mystic participation,” Lévy-Bruhl (1926, 1975) apparently refers to a kind of transpersonal and unitive experience where subject and object converge, sometimes becoming fused into one. With this kind of experience, a person can participate mystically in his or her totem, which is often an animal species but may also be a plant or a nonliving entity of nature.

In the study of the ethology of monkeys, cultural differences between Japanese and Western researchers have played an important role. Western workers (with a few important exceptions, e.g., Smuts quoted above) have considered Japanese attitudes too anthropomorphic, while the Japanese workers have considered most theories proposed in the West too logical and simplistic.

The Japanese ethologist Masao Kawai has proposed the concept *kyokan* to characterize the Japanese method of studying monkey behavior. Kawai’s work is written in Japanese but important parts of it are translated into English in the doctoral thesis by Asquith (1981, pp. 340-348; see also discussions by Harraway, 1989, pp. 247-252 and Montgomery, 1991, pp. 274-275). Kawai describes the method in this way:

At one level we fuse ourselves with the monkeys’ lives and through an intuitive channel where feelings are mutually exchanged between monkey and man we can actually sense their lives. This we believe is the most striking feature of the Japanese method. It is what we call the *kyokan* or feel-one method. (Asquith, 1981, p. 344)

By penetrating the group and sharing its living space, we come to sense the monkeys’ “aura”. Our eventual cognitive knowledge of individual monkeys may depend on this emotional or intuitive awareness which is perhaps based on a natural empathy with the monkeys, which comes through sharing the experience of simply being alive. (Asquith, 1981, p. 341)

The word “aura” is a translation of the Japanese word *fun’iki*, which here refers to the atmosphere of the monkey group with the human observer included.

In Japan, it is quite common to perform *kuyo* (prayer services) for the souls of animals and objects. Asquith (1983, 1990) writes about these services and in this connection discusses various Japanese concepts of soul. She states that in Japanese culture, the soul is seen to pass from humans to objects. An object (e.g., a bicycle), acquires soul through long use or association. The same occurs with monkeys, as participants in the *sarokuyo* (monkey service) have reported. Interestingly, one researcher said he believed in the existence of souls of those monkeys he had come to know, but not of monkeys with whom he did not work.

Much material on animal–human interaction can be found in *Anthrozoös, Journal of the International Society for Anthrozoology*, which specializes in this topic. Clearly, in daily life a large number of humans and animals are engaged in animal–human interactions, and it may be regarded as an important domain in the study of both animal and human ethology in the future.

### **Ethical Attitudes Toward Animals: Importance of Empathy and of Human–Animal Collective Experience**

Many people who care about animal welfare assume that ethical attitudes toward animals depend on the assumption that animals have conscious experiences (e.g., animals can feel pain and joy). However, by “conscious experience” is typically meant individual experience. Since we have no means to assess with certainty whether animals have individual conscious experiences, or even what they feel, this criterion for ethics remains shaky. The uncertainty about animal consciousness ascribed to individuals transfers to ethics.

Sandøe (1993) thinks that only “higher” animals most similar to humans have conscious experiences and advocates ethical attitudes toward these animals, while Singer (1983) states that the moral circle should be pushed out to include most animals (e.g., he only excludes oysters and other animals very low in the evolutionary scale, which he doubts are capable of feeling anything). Although both Sandøe and Singer care deeply about animal welfare, there is an important difference between their ethics, based on their different estimations of the extent of individual consciousness

in the animal kingdom. Descartes, who believed that animals have no consciousness, did not adopt or advocate a moral stance with regards to how humans should treat animals.

The possession of individual consciousness is, however, not the only criterion employed as a foundation for ethics towards animals. Verhoog and Visser (1997) base their ethical attitude on an intrinsic value of life and living creatures, not on animal consciousness. Other authors have written in a similar vein (Carruthers, 1999; Schweitzer, 1929; Varner, 1998). Carruthers (1999, p. 481) concludes “that the non-conscious desires of non-human animals are at least possible, or appropriate, objects of moral sympathy and concern.”

Ethics toward animals based on these criteria is independent of the uncertainty associated with ascribing conscious experiences to individual animals. It does not depend on the idea of human–animal collective conscious experiences either, but I think it is in harmony with this idea.

I shall relate some personal experiences which show an immediate feeling for ethics toward animals.

For many years, I have felt concerned about earthworms being dried to death on pavements when sun follows rain. I have moved many worms to sheltered places (and after I had done this for a long time, I was told that my maternal grandfather did the same thing). One day, some friends said to me: “You don’t need to do this, the worms are not conscious, they do not feel pain.” Then I immediately realized that this was irrelevant for my ethical attitude. I now believe that my motive is, rather, immediate empathy with living creatures, and I think this empathy conforms with the opinion that my feeling of pain and adversity associated with the experience of a worm drying to death is not my individual feeling, but is experienced collectively, with the worm and me as the We.

Likewise, based on his own experience, my colleague, ethologist Grethe Sørensen, thinks that empathy with animals is “natural,” spontaneous, and unconditioned, and occurs independent of beliefs about the animals’ capacity to experience pain and joy (personal communication, November 2001). I therefore think that abandoning all conjectures about individual conscious experiences of animals removes important uncertainties in the ethical attitudes toward animals. In its place, the transpersonal idea of human–animal collective experiences helps to attain more harmony and precision in the ethical considerations.

### **Beyond Animals: Panpsychic Views**

In this paper, the focus has been on collective conscious experience with a group of humans and animals as the subject, the We. But a few words on even more expanded views of collective consciousness are in order.

It is an old saying, that “mind sleeps in the stone, dreams in the plant, awakes in the animal, and becomes self-conscious in the human.” Based on the notion of collective conscious experience and judged from behavior and inner processes, this can be rephrased into “I share more experiences with other humans than with animals, more with animals than with plants, and more with plants than with stones.” Stones do not exhibit much behavior, but if my foot hits a stone, there will be some inner processes in the stone as well as in my foot and nervous system.

Views of animals, plants, and nature differ much among cultures. In some cultures, people feel a kind of proximity with nature that is unfamiliar for us in the industrial West. Reference was made above to the felt closeness, even identity with totem objects (animals, plants, or nonliving entities of nature), and Noske (1997) states that in the stories of many native peoples, men and women transform themselves easily into animals, and animals act like human beings.

Expressing American Indian views, Rýser (1998) also writes about proximity with nature and extends his views to consciousness. He writes that Cowlitz is a single consciousness born of countless generations of interaction among individuals, their revered ancestors, and their extended families, which includes other animals, plants, water sources, stones, mountains, the moon, the sun, the stars, and prairies (p. 17). Rýser also states that humans and other peoples share a common consciousness within the living universe. Here the fish, the eagle, the mountain, and so forth are regarded as peoples. Singleness of consciousness is always temporary and fleeting, while the collective consciousness is the permanent and perpetual condition of things. Rýser’s text is written in English and he uses the word “consciousness” probably with a meaning that has something to do with the concept of consciousness followed in this paper (i.e., consciousness as the total of conscious experience).

Jewish mysticism describes in various ways close relations of the material world with consciousness, soul, and spirit (Halevi, 1979, pp. 10-11; Meijers & Tennekes, 1982; Scholem, 1955, p. 17; Steinsaltz,

1980, pp. 62, 97, 114).

In biographical material about the Jewish mystic Isaac Luria it is told,

his visionary gaze caught glimpses of psychical life in all that surrounded him; he did not differentiate between organic and inorganic life, but insisted that souls were present everywhere and that intercourse with them was possible (Scholem, 1955, p. 255).

In modern Western philosophy, de Quincey maintains a panpsychic view (called panexperientialism or radical naturalism). As mentioned earlier in this paper, he thinks that consciousness goes “all the way down” in biological evolution and was always there. He also associates consciousness with rocks, atoms, and even subatomic particles and he thinks that the matter of the universe, its raw “stuff” has within itself the essence of what we call “consciousness” (de Quincey, 1999, p. 21, 2002, 2004). This perspective has found support in literature linking matter and consciousness through quantum physical processes (Zohar, 1990).

#### Author Note

The themes in this paper have been discussed with colleagues in the International Center for Interdisciplinary Psychiatric Research, the Danish Society for Human Ethology, and elsewhere. I have received particularly valuable critique and suggestions from Grethe Sørensen, Pierre Marchais, Elaine Smith, Lin Waddell, Nina Rosenstand, Sam Shapiro, and Manfred Wimmer.

#### End Note

1. The selection of conscious experiences to be regarded as scientific is of course influenced by scientific theory and even the formation of observations and perceptions may be regarded as a process to be likened with theory formation and influenced to some extent by the rationally formed concepts and theories (Dietrich, 1995; Dixon, 1987; Gregory, 1998; Libet, 1982). On the basis of “complete constructivism,” Dietrich (1995, pp. 96, 103-105) emphasizes, however, that our perceptions contain regularities and specificities we cannot influence, and these unchangeable features of our perceptions he denotes by the German word *Wirklichkeit*. In daily language, this German word means nearly the same as “reality,” but, in Dietrich’s exposition, reality (“materialist” reality) is

seen not as something existing independent of humans, but as a special human-made theory of *Wirklichkeit*. This, of course, comes close to my idealist description here of “material things” as mental concepts.

Dietrich also realizes that a major objection to constructivist approaches is that they lead to solipsism (only “my” experiences exist). He counters this objection by stating that the cognitive efforts he describes are “human specific” (p. 111) and that the fact experience and perception contains regularities we cannot influence is a basic experience of “all men” (p. 105). In this paper I deny that solipsism is an implication of immaterialist views by invoking the transpersonal notion of collective conscious experience, and I think that this is closely similar to Dietrich’s argument.

#### References

- Adams, M. (1999). Emily Dickinson had a dog: An interpretation of the human–dog bond. *Anthrozoös*, 12(3), 132-137.
- Arisaka, Y. (2001). The ontological co-emergence of “self and other” in Japanese philosophy. *Journal of Consciousness Studies*, 8(5-7), 197-208.
- Asquith, P. (1981). *Some aspects of anthropomorphism underlying Western and Japanese studies of the social behaviour of non-human primates*. Deposited Thesis (January 1982) Bodleian Library, University of Oxford, England.
- Asquith, P. (1983). The monkey memorial service of Japanese primatologists. *Royal Anthropological Institute News*, 54, 3-4.
- Asquith, P. (1990). The Japanese idea of soul in animals and objects as evidenced by kuyo services. In D. Daly & T. Sekine (Eds.), *Discovering Japan* (pp. 181-196). North York, Canada: Captus University Publications.
- Avramides, A. (2001). *Other minds*. London: Routledge.
- Backhaus, W. G. K., Kliegl, R., & Werner, J. S. (Eds.) (1998). *Color vision*. Berlin, Germany: Walter de Gruyter.
- Berger, P. L., & Luckmann, T. (1966). *The social construction of reality* (Danish edition, 1992). Copenhagen, Denmark: Lindhardt og Ringhof.
- Bernstein, J. S. (1992). Beyond the personal. In Renos K. Papadopoulos (Ed.) *Carl Gustav Jung: Critical Assessments*, Vol. 4 (pp. 22-37). London: Routledge.



- Bernstein, J. S. (2000). On the borderland. *IONS (Noetic Sciences Review)*, 53, 8-13, 44-46.
- Brandrup, E. (1996). Bvidsthed, kvantefysik og moral [Consciousness, quantum physics, and moral]. *Agrippa*, 17(3-4), 116-125.
- Bryld, C., & Warring, A. (1998). *Besættelsestiden som kollektiv erindring (Thetime of occupation as collective memory)*. Frederiksberg C, Denmark: Roskilde Universitetsforlag.
- Carruthers, P. (1999). Sympathy and subjectivity. *Australasian Journal of Philosophy*, 77(4), 465-482.
- Davis, H. (1997). Animal cognition versus animal thinking: The anthropomorphic error. In R. W. Mitchell, N. S. Thompson, & H. L. Miles (Eds.), *Anthropomorphism, anecdotes, and animals* (pp. 335-347). Albany, New York: State University of New York Press.
- De Kerckhove, D. (1995). *Network art and virtual communities*. Internet. [www.va.com.au/parallel/x2/journal/derrick\\_dk/ddk.html](http://www.va.com.au/parallel/x2/journal/derrick_dk/ddk.html)
- De Quincey, C. (1994). Consciousness all the way down? *Journal of Consciousness Studies*, 1(2), 217-229.
- De Quincey, C. (1999). Radical nature and the paradox of consciousness. *ReVision*, 21(4), 12-25.
- De Quincey, C. (2000). Consciousness: Truth or wisdom. *IONS (Noetic Sciences Review)*, 51, 8-13, 44-46.
- De Quincey, C. (2002). *Radical nature*. Montpellier, VT: Invisible Cities Press.
- De Quincey, C. (2004). Are rocks conscious? *Shift*, No. 1. [http://www.noetic.org/publications/shift/issue1/s1\\_cdeq.pdf](http://www.noetic.org/publications/shift/issue1/s1_cdeq.pdf).
- Dietrich, O. (1995). A constructivist approach to the problem of induction. *Evolution and Cognition*, 1(2), 95-113.
- Dixon, N. (1987). *Preconscious processing*. New York: Wiley.
- Emmeche, C. (1990). Kognition og omverden--om Jakob von Ureksüll og hans bidrag til kognitionsforskningen (Cognition and surrounding world--on Jakob von Uexküll and his contribution to cognition research). *Almen Semiotik*, 2, 52-67.
- Freeman, W., & Burns J. (1996). Societies of brains. *Journal of Consciousness Studies*, 3(2), 172-180.
- Gackenbach, J., Guthrie, G., & Karpen, J. (1998). The coevolution of technology and consciousness. In J. Gackenbach (Ed.), *Psychology of the Internet* (chapter 13, n.p.). San Diego, CA: Academic Press.
- Gallagher, K. (1970). Intersubjective knowledge. In T. O. Buford (Ed.), *Essays on other minds*. (pp. 371-395). Chicago: University of Illinois Press.
- Godlee, B. (2001). The private life of the brain (book review). *British Medical Journal*, 322 (April 14), 935.
- Gregory, R. L. (1998). Eye and brain. *The psychology of seeing*. Oxford, England: Oxford University Press.
- Griffin, D. R. (1998). From cognition to consciousness. *Animal Cognition*, 1(1), 3-16.
- Halevi, Z. (1979). *Kabbalah*. London: Thames and Hudson.
- Halbwachs, M. (1975). *Les cadres sociaux de la mémoire (The social frames of memory)*. Paris: Mouton.
- Harraway, D. (1989). *Primate visions*. New York: Routledge.
- Harnad, S. (1991). Other bodies, other minds: A machine incarnation of an old philosophical problem. *Minds and Machines*, 1(1), 43-54.
- Huberman, B. A. (1989). The collective brain. In M. J. Cotterill (Ed.), *Models of brain function* (pp. 443-451). Cambridge, England: Cambridge University Press.
- Humphrey, N. (1982). Consciousness: A just-so story. *New Scientist*, 95, 474-477.
- Ivic, I. (1994). Lev S. Vygotsky. *Prospects: the quarterly review of comparative education*. 24 (3/4), 471-485. Paris, UNESCO: International Bureau of Education. Internet: <http://www.ibe.unesco.org/International/Publications/Thinkers/ThinkersPdf/vygotske.pdf>
- Jacobs, G. H. (1981). *Comparative color vision*. New York: Academic Press.
- Jaynes, J. (1976). *The origin of consciousness in the breakdown of the bicameral mind*. Boston: Houghton Mifflin.
- Jaynes, J. (1978). In a manner of speaking. *The Behavioral and Brain Sciences*, 1(4), 578-579.
- Jørgensen, J. (1963). *Psykologi paa biologisk grundlag (Psychology based on biology)*. Copenhagen: Munksgaard.
- Kennedy, J. S. (1992). *The new anthropomorphism*. New York: Cambridge University Press.
- Knight, G. (2001). Idealism, intentionality, and non-existent objects. *Journal of Philosophical Research*, 26, 43-52.
- Lasher, M. (1998). A relational approach to the human-animal bond. *Anthrozoös*, 11(3), 130-133.
- Levinson, B. M. (1980). The child and his pet: A world of nonverbal communication. In S. A. Corson, & E. O'Leary Corson (Eds.), *Ethology &*



- nonverbal communication in mental health* (pp. 63-81). New York: Pergamon.
- Lévy-Bruhl, L. (1926). *How natives think*. London: George Allen and Unwin.
- Lévy-Bruhl, L. (1975). *The notebooks on primitive mentality*. Oxford, England: Basil Blackwell.
- Libet, B. (1982). Brain stimulation in the study of neuronal functions for conscious sensory experiences. *Human Neurobiology*, 1, 235–242.
- Lorenz, K. (1973). *Die Rückseite des Spiegels (The verse of the mirror)*. München, Germany: Piper & Co.
- Marshall, P. (2001). Transforming the world into experience. *Journal of Consciousness Studies*, 8(1): 59-76.
- Mehra, J., & Rechenberg, H. (1982). *The historical development of quantum theory*, Vol. 2. Berlin: Springer Verlag.
- Meijers, L. D., & Tennekens, J. (1982). Spirit and matter in the cosmology of chassidic Judaism. In P. E. De Josselin de Jong & E. Schwimmer (Eds.), *Symbolic anthropology in the Netherlands* (pp. 200-221). The Hague, Netherlands: Martinus Nijhoff.
- Montgomery, S. (1991). *Walking with the Great Apes*. Boston: Houghton Mifflin.
- Nielsen, A. (1965). *Insekternes sanseverden (The sensory world of the insects)*. Copenhagen, Denmark: Haase & Søn.
- Noske, B. (1997). Speciesism, anthropocentrism, and non-western cultures. *Anthrozoös*, 10(4), 183-190.
- Okuyama, M. (1993). The sense of self among Japanese. In G. Lasker (Ed.), *Advances in systems studies* (pp. 22-29). Windsor, Canada: The International Institute for Advanced Studies in Systems Research and Cybernetics.
- Popper, K. R. (1987). Natural selection and the emergence of mind. In G. Radnitzky & W. W. Bartley III. (Eds.), *Evolutionary epistemology, rationality, and the sociology of knowledge*. (pp. 139-155). La Salle, Illinois: Open Court.
- Randrup, A. (1992). Perspectives de recherches interdisciplinaires en psychiatrie. *Annales Médico-Psychologique*, 150(4-5), 247-249.
- Randrup, A. (1994). Mind-matter relations: Is it the conception of matter that is problematic? In G. E. Lasker and D. Murphy (Eds.), *Advances in research of human consciousness* (pp. 24-25). Windsor, Canada: International Institute for Advanced Studies in Systems Research and Cybernetics.
- Randrup, A. (1997a). An alternative to materialism. *Cybernetics & Human Knowing*, 4(4), 15-24.
- Randrup, A. (1997b). More than one truth: Consequences for our world view. In G. E. Lasker (Ed.), *Research-in-Progress: Vol. 4*. (p. 12). Windsor, Canada: International Institute for Advanced Studies in Systems Research and Cybernetics.
- Randrup, A. A. (1999). Collective and egoless consciousness: Significance for philosophy of science and for the mind-brain problem. *The International Journal of Transpersonal Studies*, 18(2), 133-137.
- Randrup, A. A. (2002). Collective consciousness across time. *Anthropology of Consciousness*. 13(1), 27–41.
- Randrup, A. A. (2003). *Idealist philosophy: What is real? Conscious experience seen as basic to ontology. An overview*. <http://philsci-archive.pitt.edu/archive/00001216/01/reality.html>
- Randrup, A. (2004). *Cognition and biological evolution: An idealist approach resolves a fundamental paradox*. <http://philsci-archive.pitt.edu/archive/00001563/01/evolutioncognition.html>
- Rieber, R., & Carton, A. (1987). *The collected works of L. S. Vygotsky*, Vol 1. New York: Plenum. Internet: <http://www.ibe.unesco.org/International/Publications/Thinkers/ThinkersPdf/vygotske.pdf>
- Rosenstand, N. (2002). *The human condition*. Boston: McGraw-Hill.
- Roth, G. (1999). The neurobiological basis of consciousness in man and animals. *Evolution and Cognition*, 5(2), 137-148.
- Rothberg, D., & Masters, R. A. (Eds.). (1998). Intimate relationships and spirituality (Special issue). *Revision*, 21(2).
- Rjyser, R. C. (1998). Observations on “self” and “knowing.” In H. Wautischer (Ed.), *Tribal epistemologies* (pp. 17-29). Aldershot, England: Ashgate.
- Sandøe, P. (1993). *Etik*. Copenhagen, Denmark: Folkeuniversitetet i København.
- Scheler, M. (1954). *The nature of sympathy*. New Haven, CT: Yale University Press.
- Scholem, G. G. (1955). *Major trends in Jewish mysticism*. London: Thames and Hudson.
- Schweitzer, A. (1929). *Civilisation and ethica*. London: A. C. Black.
- Searle, J. R. (2002). *Consciousness and language*. Cambridge, England: Cambridge University Press.
- Sinclair, S. (1985). *How animals see*. New York: Facts on File Publications:
- Singer, P. (1983). *The expanding circle*. Melbourne, Australia: Oxford University Press.

- Sjölander, S. (1984). *Nya tankar om gamla hjärnor* (*New thoughts about old brains*). Sweden: Brombergs.
- Smuts, B. (2001). Encounters with animal minds. *Journal of Consciousness Studies*, 8(5-7), 293-309.
- Sorenson, E. R. (1998). Preconquest consciousness. In Helmut Wautischer (Ed.), *Tribal epistemologies* (pp. 79-115). Aldershot, England: Ashgate.
- Stern, D. N. (1985). *The interpersonal world of the infant*. New York: Basic Books.
- Suler, J. (1999). Cyberspace as psychological space. In J. Suler (Ed.), *The psychology of cyberspace*. Internet: <http://www.rider.edu/users/suler/psycyber/psycyber.html>
- Tranekjær, R. E. (1968). *Bevidsthedsliv og erkendelse* (*Conscious life and cognition*). Copenhagen, Denmark: Munksgaard.
- Varner, G. E. (1998). *In nature's interests?: Interests, animal rights, and environmental ethics*. New York: Oxford University Press.
- Vaughan, F. (1995). The power of imaginal worlds. *Association for Transpersonal Psychology Newsletter*, Summer, 3-7.
- Verhoog, H. & Visser, T. (1997). A view of intrinsic value not based on animal consciousness. In M. Dol, S. Kasanmoentalib, S. Lijmbach, E. Rivas, & Ruud van den Bos (Eds.), *Animal consciousness and animal ethics* (pp. 223-232). Assen, Netherlands: Van Gorcum.
- Von Uexküll, J. (1957). A stroll through the worlds of animals and men. In C. H. Schiller (Ed.), *Instinctive behaviour* (pp. 5-80). New York: International Universities Press.
- Vorstenbosch, J. (1997). Conscientiousness and consciousness. How to make up our mind about the animal mind? In M. Dol, S. Kasanmoentalib, S. Lijmbach, E. Rivas, & R. van den Bos (Eds.), *Animal consciousness and animal ethics* (pp. 32-47). Assen, Netherlands: Van Gorcum.
- Wallace, B. A. (1996). *Choosing reality*. Ithaca, NY: Snow Lion.
- Watsuji, T. (1996). *Watsuji Tetsuro's rinrigaku: Ethics in Japan*. Albany: SUNY Press.
- Wisdom, J. (1965). *Other minds*. Oxford, England: Blackwell.
- Wynne, C. (1999). *Do animals think? The case against the animal mind*. Internet. [www.findarticles.com/cf\\_0/m1175/6\\_32/56883557/p1/article.jhtml](http://www.findarticles.com/cf_0/m1175/6_32/56883557/p1/article.jhtml)
- Young-Eisendrath, P., & Hall, J. A. (1992). Jung and constructivism. In R. K. Papadopoulos (Ed.), *Carl Gustav Jung: Critical assessments*, Vol. 4 (pp. 166-181). London: Routledge.
- Zohar, D. (1990). *The quantum self*. London: Bloomsbury.

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