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Investigating the Structure of Religious Concepts

A Few Remarks from the Perspective of Enactivism and Cognitive Linguistics

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Abstract: The aim of the paper is to discuss the possible application of the theory of embodied cognition and the category of image schemata to the study of religious concepts within the Cognitive Science of Religion. Departing from the notion of counterintuitiveness and Boyer's description of religious representations as minimally counterintuitive, the author briefly discusses the critique of this approach. Subsequently, different models of mind and cognition within the Cognitive Science are summarised, with special attention given to the enactive approach, as proposed by Varela, Thompson and Rosch. The notion of embodied meaning, situated within enactivism, is then discussed, together with Johnson's concept of image schemata as basic semantic units. To discuss the applicability of image schemata in the study of religious concepts, the author summarises a case study, related to the interpretation of the categories of *sāṃkhya-yoga darśana* in Iyengar Yoga.

Keywords: counterintuitiveness, ontological categories, enactivism, embodied cognition, enaction, image schemata, ritual studies, Sāṃkhya-Yoga, Modern Postural Yoga

Introduction

As the Cognitive Science of Religion (CSR) began to emerge, its appeal arose from the fact, that it opened the researcher's eyes to the intricacies of human mind[1] and the role it played in shaping, understanding and transmitting religious[2] representations[3]. Despite its naturalistic approach, it did not bluntly dismiss religious beliefs as at odds with the findings of natural sciences. On the contrary, it strove to show, how a

1 The *mindblindness* of earlier theories of religion was discussed extensively by Scott Atran. See Atran, "In Gods We Trust", 14-15, 199 ff.

2 The terms *religious* and *religion* are used in the present paper as a "convenient, non-technical pointer" (Boyer, "Explaining Religious Concepts", 171) to the vast field of interest of the study of religion. The author is sympathetic with the stance Boyer has been propagating most recently, which is that there is no single, universal and cross-cultural (or even culture-independent) phenomenon that may unambiguously be called religion (see also Boyer, "Why would (otherwise intelligent) scholars believe in 'Religion'?" and the foregoing discussion). Even though in the following paragraphs a definition of religion is cited and a proposal is presented to approach religious phenomena from a particular angle, it is for the purpose of keeping the subject matter transparent, and not for the sake of arguing, what religion is or isn't. The author does not claim that religion is a relation between ritually-grounded systems of image schemata and concepts coherent with them, *rather than* commitment to a world of counterintuitive agents. The much more modest claim is that looking at sets of concepts from the perspective of ritually-grounded image schemata might be a fruitful approach in describing and comparing a variety of concepts studied by CSR.

3 The notion of *representation* poses important problems within CS, and the difference in its understanding constitutes the most important divide between cognitivism and enactivism, two of the approaches summarised in the present paper. On the following pages, the term *representation* denotes the general, weak and "relatively uncontroversial notion of... construal, [i.e.] construing or representing the world a certain way" (Varela, Thompson, and Rosch, "The Embodied Mind", 134). When talking of representation in a stronger sense, adhered to by cognitivism and meaning *symbolic mental content undergoing computational processing*, the author talks of *propositional* knowledge/information. The concept of cognition as manipulating propositional content (or representations in the strong sense) has been rejected in its entirety by the more radical branch of enactivism (see Hutto and Myin, "Radicalizing Enactivism"). For the discussion of the enactive *vs.* cognitivist paradigm, see below.

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very natural phenomenon - namely evolved human cognitive processes - make the emergence of religious thinking inevitable. To account for the ubiquity of religious concepts and modes of behaviour, it attempted to create a "groundwork to investigate formally the relationship between 'basic parts of human nature' and how they interact with specific local contexts"[4]. The cornerstone of this groundwork became the concept of *counterintuitiveness*, developed by Pascal Boyer[5], and subsequently discussed, elaborated and questioned in numerous publications[6]. Boyer's proposal was that religious representations are *minimally counterintuitive* (MCI), which makes them particularly compatible with human minds, easy to memorise, and thus gives them transmission advantage over other representations. Ever since these claims, empirical studies have flourished, investigating the MCI nature of religious concepts and their alleged superior memorability. Justin Barrett[7] proposed a method of quantifying and coding counterintuitiveness, providing what was meant to be a universal system of breaking down religious beliefs into transparent, clear-cut units readily available for comparative analysis.

The notion of moderate counterintuitiveness, by virtue of its simplicity, seeming transparency and compatibility with a particular model of the mind, presents itself as an attractive and effective tool for the analysis of religious thought. However, its weaknesses, and the weaknesses of the studies, which put it to use, could not escape critique[8]. Breaking religion down into MCI concepts made it appealingly analysable, but, among its other flaws, it took the researchers' minds off the complexities of religious contexts, and such fundamental elements of religion as ritual activity.

As language and action are the only means to transmit concepts, religious concepts cannot - or at least should not - be isolated from their linguistic and performative context. As, within the cognitive paradigm, Cognitive Linguistics (CL) provides valuable insights into the relation between representations, action patterns and grammatico-lexical systems, it is tempting to incorporate these insights into the study of how religious representations are assembled, comprehended and transmitted within larger narratives and ritual activities. It is the aim of the present paper to propose a way of applying the categories of CL in the study of religious representations. It is not the author's goal to dismiss the notion of counterintuitiveness in its entirety, nor to propose a completely alternative mode of describing religious concepts. The paper attempts to provide a complementary look at the emergence of religious ideas, still situated within the cognitive paradigm, but taking into consideration a different model of cognition and applying different interpretative tools.

What We Talk About When We Talk About *The Counterintuitive*

Let the departure point for the present discussion be Scott Atran's definition of religion as "a community's costly and hard-to-fake commitment... to a counterfactual and counterintuitive world of supernatural agents... who master people's existential anxieties, such as death and deception"[9]. This definition is comprehensive and applicable to a broad scope of phenomena, especially as it takes into account the social dimension of religious attitudes and as, through the use of the term *commitment*, it avoids equating religion with belief only. However, the notions of *costliness*, *counterfactuality* and *counterintuiveness* may raise certain doubts. Presently, only the latter of the terms will be taken into consideration.

The term *counterintuitive* was proposed by Pascal Boyer to denote concepts "including information contradicting some information provided by ontological categories"[10]. *Ontological categories*, on the other hand, are abstract and highly general concepts - such as ANIMAL, PERSON, PLANT or TOOL - which

4 Purzycki and Willard, "MCI theory: a critical discussion", 6.
5 See e.g. Boyer, "The Naturalness of Religious Ideas", "Religion Explained".
6 A few of these publications will be referred to on the following pages.
7 Barrett, "Coding and Quantifying Counterintuitiveness in Religious Concepts".
8 In this regard, see e.g. Purzycki and Willard, "MCI theory: a critical discussion".
9 Atran, "In Gods We Trust", 4.
10 Boyer, "Religion Explained", 65.

provide basic templates for recognition and classification of perceived phenomena[11]. They include certain default inferences, in forms of "mini-theories" (e.g. "ANIMALS have to eat to survive" or "PERSONS can talk"), which make it possible to acquire new concepts promptly, based on only partial perceptual data[12]. Thus, *counterintuitive concepts* are those, which in some respects violate the "mini-theories" about given ontological categories, while remaining faithful to them in other aspects. They may do so by lacking certain inferences typical of a category (so called *breaches* - e.g. an ANIMAL that does not die) or by including inferences borrowed from another category (*transfers* - e.g. a PLANT that can talk). According to Boyer and his fellow scholars, such *minimal counterintuitiveness* (MCI) is one of the key features of all religious concepts, contributing greatly to their attractiveness and prevalence.

Boyer himself is cautious when using the term *counterintuitive*. He stresses that "[i]t does not mean strange, inexplicable, funny, exceptional or extraordinary. What is counterintuitive… is not even necessarily surprising"[13]. He is wary, that "the ordinary sense of the term… may be misleading" and suggests that the expression *counterlogical* might be a safer choice. Though a slightly repulsive neologism, this expression does have the virtue of not bringing about a variety of connotations that the notion of *intuition* awakens. Still, the positioning of the term *intuitive* after the *counter* is quite well justified. It communicates the message, that the counterintuitive beings somehow oppose the rules of so-called *intuitive biology*, *intuitive psychology* or *intuitive physics* - sets of theories, possibly innate and processed in propositional form, pertaining to the phenomena cognised by humans. These theories are deemed intuitive by virtue of being universal and concordant with the everyday experience of the world. Still, they may not be the preferred tools for ordering and interpreting this experience. In other words, what is *intuitive* might go beyond understanding, that animals breed, people do not know what they haven't seen or haven't been told and rocks fall when thrown in the air.

There is an important assumption underlying such understanding of counterintuitive concepts. It is that the default mode of human cognition is based on universal logic and has propositional[14] character. However, numerous anthropologists, with Lévy-Bruhl[15] and Lévi-Strauss[16] in their avant-garde, have been pointing out for decades that there is more to human "logic" than formulating syllogisms such as: Persons are born and die and God is a person, *ergo* God should be born and die (and it goes against intuition to believe that he is not and does not). Besides, the argument of opposing (onto)logical categories can only go that far in explaining the large variety of religious phenomena. To apply one of the most famous ethnological examples, the famed (and almost fabled) puzzle of the Bororo locution (*pa e-do nabure* - "we become macaws") can hardly be solved by claiming that the Bororo men believe in illogical statements or that they consider themselves shape-shifting, and thus counterintuitive, persons. What needs to be taken into account is the specific experience of the Bororo related to their interaction with the natural and social environment, and the specific context of the quoted locution - namely ritual activity[17]. This experience and this context go beyond both the stating and application of propositional

11 The findings of cognitive psychology do not support the view that ontological categories are the most rudimentary tools for classifying. As Eleanor Rosch points out, categories as general and abstract as ANIMAL or PLANT are not the most basic ones, as they allow few inferences and may not be represented through imagery. The most inclusive categories, allowing for rich inferences about their members and thus for the most effective classification, are what Rosch calls basic-level objects, such as CAT, TREE or CHAIR (rather than ANIMAL, PLANT or TOOL). Studies show that during perception objects are first recognised as members of a basic category, and not a superordinate one. Basic objects also likely constitute the first categorisations of perceived objects during child development. See Rosch, "Principles of Categorization", 189-206.

12 Boyer, "Religion Explained", 60-63.

13 Ibid., 65.

14 The *propositional* character of cognition in this model can be summarised as passive reception of objective information from the external environment, coding it into abstract propositions representing this information symbolically, and then manipulating these propositions in the isolated, internal environment of the mind.

15 Lévy-Bruhl, "Primitive Mentality".

16 Lévi-Strauss, "The Savage Mind".

17 See e.g. Turner, "'We are Parrots', 'Twins are Birds'", 121-189.

"mini-theories" and they provide a range of schemata[18] which may render the men "becoming macaws" quite logical and intuitive.

The foregoing reservation, expressed in a general way and meant merely as an introduction to the forthcoming discussion, is one of many complaints about the notion of counterintuitiveness that have been raised over the past years. What follows is but a short summary of a few of them.

Justin Barrett[19] undermines the universality of the counterintuitive character of religious representations by distinguishing between two levels of concept-understanding applied in different contexts. Though on a *theoretical* level, applied in formal discourse and allowing for longer processing time, concepts (including religious concepts) may be complex and have a high degree of counterintuitiveness, on a *basic* level, effective when quick inferences need to be made, "naïve intuitive knowledge"[20] is applied. This argument is aligned with the *dual processing model*[21], distinguishing between cognition as an immediate response to the environment and as a reflective process aimed at updating our understanding of that environment. It does not, however, render Boyer's theory invalid. According to the latter, successful religious representations are MCI, only *minimally* counterintuitive, so that most of the features of an ontological category they are grounded in are retained, allowing for swift on-line inferences. It is *maximum* counterintuitiveness (MAX) that shifts a concept towards the theoretical pole of the cognitive demands axis[22]. Such counterintuitiveness does not, according to Boyer, characterise the most widespread religious concepts. Moreover, in the cited work, the notion of *intuitiveness* still remains somewhat vague. In his later work[23], Barrett proposes a system for grading the degree of counterintuitiveness, and even allows that apparently MAX concepts may be entirely intuitive *sensu* Boyer. This issue will be discussed further on.

Maurice Bloch[24] raises different doubts pertaining to the subject, related to the social context of the emergence of religious ideas. Referring to his own ethnographic example - the Malagasy - he points out that religious agents, such as the ancestors, are treated not as an exclusive category (in this case of dead people who can still communicate), but just as regular persons (i.e. living ascendants). Though communication with them may be slightly more difficult, it is perceived as utterly ordinary, and so are the attitudes and emotions directed towards them. This fact may be at least partially explained by Barrett's postulate that the category of PERSON does not need to assume cognitive expectation of Physicality and Biology[25]. It might not matter to the Malagasy - or to any other people, for that matter - whether their ascendants have bodies prone to death or not, as long as they have minds. Still, this is a departure from Boyer's classical view, according to which having a mind that goes on after the body's decay is an ontological breach.

Another of Bloch's points is that religious notions, when expressed explicitly, are so well-known, that they become intuitive merely by the virtue of their ubiquity. Hearing a given narrative often enough renders

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18 Here the term *schema* is used in a fairly general sense, and may perhaps be best defined as "the organization of cognitive elements into an abstract mental object capable of being held in working memory with default values or open slots which can be variously filled in with appropriate specifics" (D'Andrade, "The development of cognitive anthropology", 179). Such definition does not specify the nature of the "mental object", and it does not distinguish between propositional vs. embodied knowledge. It may encompass schemata *sensu* Barrett ("Coding and Quantifying Counterintuitiveness in Religious Concepts", 312), understood as patterns derived from *practiced natural* knowledge only (for definition of *practiced* vs. *maturational naturalness*, see McCauley, "Why Religion in Natural and Science is Not", 26 ff.), or, in a broader sense, "strictly learned" rather than innate (Purzycki, "Cognitive Architecture, Humor and Counterintuitiveness", 191). It may also refer to image schemata *sensu* Johnson, i.e. "embodied patterns of meaningfully organized experience" (Johnson, "The Body in the Mind", 19) or "recurrent pattern[s], shape[s], and regularit[ies]" applied to order "actions, perceptions and conceptions" (Johnson, "The Body in the Mind", 29). Johnson's understanding of image schemata in terms of embodied experience presents them as experientially acquired rather than innate, but does not distinguish between their practiced vs. maturational origin. This understanding, grounded in the concept of embodied cognition, will be discussed in more detail on the forthcoming pages.

19 Barrett, "Theological Correctness", 325-339.

20 Ibid., 326.

21 Purzycki and Willard, "MCI theory: a critical discussion", 3.

22 See Barrett, "Theological Correctness", 327.

23 Barrett, "Coding and Quantifying Counterintuitiveness in Religious Concepts".

24 Bloch, "Are Religious Beliefs Counterintuitive?", 129-146.

25 Barrett, "Coding and Quantifying Counterintuitiveness in Religious Concepts", 321. This issue will be elaborated on in more detail further on.

it self-evident and completely usual. The notion of ancestors, entrenched in the minds of generations of the Malagasy, is accepted as uncritically as the notion of counterintuitiveness entrenched in the minds of the cognitive scholars of religion. Understanding this notion becomes a habit, which requires no special cognitive operations of jumping between ontological categories. Of course a careful reader might point out, that Bloch's argument is based on an understanding of *the intuitive* much different from Boyer's. While for the latter scholar what is intuitive is in accord with the rules of folk physics, folk biology and folk psychology, for the former it is all that is commonly accepted. Boyer argues, that certain notions are commonplace because they are minimally counterintuitive (and as such may be easily remembered and transmitted). Bloch responds, that on the contrary, these notions are intuitive, because they are commonplace. These are not opposing views and it is possible to reconcile them by concluding, that religious concepts become intuitive (*sensu* Bloch) by virtue of being minimally counterintuitive (*sensu* Boyer). This clash of definitions is partially related to the *counterintuitive* vs. *counterschematic* dilemma, stemming from the difficulty in establishing, where the universal, innate knowledge ends and where context-specific, acquired knowledge begins.

The question of the interaction between *cognitive modules* (innate, domain-specific and responsible for the identification of particular ontological categories) and *cognitive schemata* (domain-general and acquired through learning) is one of the issues raised most recently in Benjamin Purzycki and Aiyana Willard's discussion of the MCI theory[26]. To provide an alternative distinction (not necessarily overlapping precisely with the module-schema dualism), the authors talk about deep inferences (found already in young children and based on knowledge provided directly by cognitive faculties) versus shallow inferences (based on more specific relationships between concepts and reflective information)[27]. With increasing experience, shallow inferences are updated, allowing for the attribution of different qualities to different objects depending on the context. The difficulty in establishing whether or not a representation is a counterintuitive one lies in assessing its interpretation in terms of deep inferences related to it (e.g. an INANIMATE LIVING THING moves on its own, therefore a counterintuitive transfer occurs), or in terms of shallow ones (a flower is bobbing in the wind, like flowers do)[28]. Unless a way is established to indicate, which mode of drawing inferences is activated in a given context, it is impossible to conclude, whether a concept is represented as a counterintuitive one, or not.

Another matter is that of transmission of concepts. Even if initially a concept violates deep inferences, once it is remembered, it acquires a schematic representation relative to other available schemata. Once recalled and described to a second party, it activates the newly acquired schema that is intuitive by virtue of its incorporation into the broader scope of schemata, counterschematic by virtue of its incompatibility with its schematic prototype, and possibly counterintuitive in relation to the deep inferences it is supposed to undermine[29]. If the author of the present paper understands this line of argument correctly, unless a method is proposed to establish clearly, whether a particular inference is made based on the fixed, module-specific information or on the flexible and cross-modular system of schemata, there is no clear way to establish whether a given concept is represented as counterintuitive or not. In other words, the distinction between the counterintuitive and the counterschematic remains blurry and there is no telling which of these two categories provide for more successful transmission and retention[30]. If there is no telling whether a concept is mentally processed as MCI or not, the argument that MCI concepts are remembered better, and thus provide a good foundation for religious thought, remains suspended in thin air.

26 Purzycki and Willard, "MCI theory: a critical discussion".
27 Ibid., 6.
28 Ibid., 18-19.
29 Ibid.
30 Ibid., 21.

From Computation to Enaction. Models of the Mind and Concept Acquisition

Much of the confusion related to the notion of counterintuitiveness is related to the fact that it draws on a very particular model of the mind and cognition. Boyer's concept assumes that the mind is a system of computational modules, each designed by evolution to solve specific problems related to the interaction with the environment[31]. These modules are innate, encapsulated (i.e. percepts processed by one module which do not affect other modules), inaccessible (i.e. the flow of information between them is constrained) and domain-specific (specialised to process differently structured kinds of information)[32]. This model represents cognitive systems as rigid, designed to process precisely delimited sets of information, whereas experiential, context-based knowledge demands for flexibility, malleability and interconnectedness of the structures involved in its manipulation.

An alternative model of the mind, labelled connectionism, allows for a greater plasticity of cognitive structures. According to its proponents cognitive operations are a result of the functioning not of singular mental modules, but rather of groups of simple components, across which many operations are distributed. These components are connected into networks, whose cooperation results in the emergence of global activity aimed at processing specific tasks[33]. By assuming the interconnectedness of processing units and the plasticity of links between them, connectionism provides a different view on learning processes, diminishing the significance of innate, implicit knowledge. Acquiring new information is not viewed as inserting new propositional information into the slots of prefabricated modules, but rather creating new connections between different units or changing the weight of connections already developed[34]. Among the approaches to counterintuitiveness, M. Afzal Upal's critique assumes the connectionist view[35]. In his *context-based approach* (as opposed to Boyer's *concept-based approach*), Upal lays emphasis on the significance of the co-occurrence of concepts in larger conceptual systems to explain their salience and memorability, rather than on their alleged inherent structure. In his *spreading activation model*[36], different concepts are represented in connection to other concepts, and the strength of these connections depends on the expected likelihood of those concepts' co-occurrence[37]. When a single concept is activated, the stimulus spreads onto neighbouring concepts. If a following concept is an expected one and has an established position in the net of connections, the connection between it and the first concept is strengthened. If expectation violation occurs, i.e. a concept with no established connection follows, a learning opportunity emerges and the existing model is updated. Because memorising concepts that promise the most information gain may be adaptively advantageous, such concepts, which violate co-occurrence expectations and thus result in the rewiring of existing net of connections, may be more memorable. However, as the new configuration becomes established, its salience diminishes. So even if unexpectedness is interpreted as a case of counterintuitiveness, it is only a temporary phenomenon, which fades as the new context becomes entrenched. It is for that reason that over time the counterintuitiveness of religious concepts must actually increase - it is the only way they may keep up with the ever adaptive and innovative human cognitive structures[38].

31 See Pinker, "How the Mind Works", 21.

32 Fodor, "The Modularity of Mind". The model applied within CSR is a variation on Fodor's model, proposed by Dan Sperber. According to Fodor, only the sensory inputs of the cognitive systems are modular. Sperber argues, on the other hand, that to account for cultural diversity and the plasticity of the human mind, one needs to assume that also conceptual processing occurs in a modular manner. Sperber, "Explaining Culture", 119-150.

33 Varela, Thompson, and Rosch, "The Embodied Mind", 8.

34 Cf. Purzycki and Willard, "MCI theory: a critical discussion", 11.

35 Upal, "An alternative account of the minimal counterintuitiveness effect", 194-203.

36 Ibid., 197.

37 This is a metaphorical application of the so-called Hebbian rule related to the creation of neuronal interconnections, which can be summarised as "neurons that fire together, wire together". Hebb, "The Organization of Behavior". See also e.g. Varela, Thompson, and Rosch, "The Embodied Mind", 87 ff. or Goldman, "Simulating Minds", 142 ff.

38 Upal, "An alternative account of the minimal counterintuitiveness effect", 201.

The third model of cognition, namely *enactivism*[39], also takes account of the malleability of cognitive structures and the significance of context for the acquisition and ordering of knowledge. However, it breaks the divide between the information-filled environment and the isolated mental conceptual structures, by treating the body, connected dynamically to its surroundings through its sensorimotor system, as an autonomous, cognising agent and the "ultimate source of significance"[40]. According to Francisco Varela, Evan Thompson and Eleanor Rosch, cognition involves continuous enactment of the experienced world through the execution of recurrent sensorimotor patterns[41]. It is neither passive apprehension of data and sliding them into appropriate slots, nor gradual rewiring of conceptual networks, but interacting with the surroundings through sensory and motor activity while assembling - and reassembling - dynamic representations of this interaction[42]. These representations are not propositional, but *embodied* - they retain their blueprint in form of the feeling of the body, its spatial orientation, motor abilities and limitations, as well as modes of interaction with the physical and social environment.

Mark Johnson[43] provided the description of concept formation compatible with the notion of *embodied cognition*. He proposed that rather than being represented propositionally, concepts are assembled of *image schemata* (IS)[44] - non-propositional structures of meaning[45] in the form of most basic diagrams abstracted from everyday sensorimotor experience[46]. IS, being patterns of human interaction with the environment, are dynamic structures. They can be derived from the information belonging to a particular sensory modality (visual, auditory, tactile etc.), but can also be cross-modal. They can also stem from such domains as social interaction or proprioception (with its experience of pain, weariness, exerting muscular force and the like)[47]. IS are complex (they may be built of smaller parts and relations between them) and malleable (they may be reshaped to fit any given rich - i.e. non-schematic - representation). Thus, the IS of an OBJECT MOVING OUT OF A CONTAINER may be applied to understand (or enact) the notion of an egg falling out of a basket, an internal organ sneaking out of one's body to cause havoc (Boyer's ethnographic example acquired among the Fang people)[48] or a goddess jumping out of her father's head. In this way notions which may be viewed as a transfer or a breach of an ontological category (according to folk biology internal organs are not animate and intentional, and men do not gestate offspring is their heads), or a violation of learned schemata, may be experienced through the application of a very familiar, embodied IS. In fact, the IS of a CONTAINER is most likely grounded in a very basic experience - namely of one's own body, into which various objects (e.g. food items) may be put and out of which other objects and substances (e.g. feces, blood

39 Varela, Thompson, and Rosch, "The Embodied Mind", 147 ff.

40 Di Paolo, Rohde, and De Jaegher, "Horizons for the Enactive Mind", 42.

41 Varela, Thompson, and Rosch, "The Embodied Mind", 9, 173.

42 As mentioned before, not all strands within enactivism endorse the idea, that cognition involves representation, even in a weak, non-propositionalist sense. See Hutto and Myin, "Radicalizing Enactivism".

43 Johnson, "The Body in the Mind".

44 To avoid confusion with the previously applied denotation of the term *schema*, the acronym IS is applied in the forthcoming part of the paper.

45 The notion of *meaning* is quite blurry and not at all as self-explanatory as one might hope. In Johnson's sense, this term refers not only to linguistic meaning (understood as a relation between a *signifiant* and its corresponding *signifié*) but also to the significance of the objects of cognition in relation to the totality of experience. Thus, attributing meaning to the elements of the perceived world would be equal to ordering the experience of this world. Such understanding of meaningfulness is negated by Sperber, who proposes to distinguish between semiological systems and cognitive systems, attributing the latter with the function of organising experience. Sperber dismisses the semiotic character of symbolic structures as described by Lévi-Strauss, claiming that rather than providing meaning, they merely provide order (Sperber, "Rethinking Symbolism", 51-84).

46 Johnson, "The Body in the Mind", 19-40.

47 Johnson's broad definition of *image schemata* may seem not precise enough. Ronald Langacker proposes a more clear-cut classification of embodied conceptual units. He distinguishes between *minimal concepts*, related to particular sensory modalities and domains of experience (line or angle in space, brightness or colours in vision, precedence or simultaneity in the temporal domain), *configurational concepts*, which are cross-modal and represent relations abstracted from different experiential domains (e.g. boundary, contrast, change, continuity, etc.), and *conceptual archetypes* - composite, cross-modal structures derived from the most salient forms of experience (e.g. object in a location, a whole and its parts, effectuating change through exerting force, the human body, a face-to-face social interaction). Langacker, "Cognitive Grammar", 33-34.

48 Boyer, "Religion Explained", 270.

or various excretions) come out[49]. Another valid example may be the IS of a GAS SUBSTANCE dissipating in the air. It may be evoked when one's own exhalation forms a vanishing cloud on a frosty day, when one observes the steam over a boiling pot or when one construes an omnipresent deity[50]. What follows is that every religious concept, to be rendered meaningful and then memorised, must be represented (or enacted) through the application of the available IS. From this perspective, understanding the structure of religious concepts means establishing which configurations of IS are most prevalent in their representations, what domains of experience they draw upon and how they are related to larger contexts (religious narratives, ritual activity). The following part of the present paper will be an attempt to provide such understanding in regard to a single example.

Religious Concepts as Sets of Image Schemata. A Case Study

The author's own study focuses on the formation of religio-philosophical concepts in the strands of Modern Postural Yoga (MPY)[51]. MPY is a term denoting systems of yoga practice that started to develop in South-West India the first half of the 20th century, under the influence of European physical culture, indigenous athletic practices and the *haṭha yoga* tradition[52]. Nowadays, MPY strands are global movements, using English as their primary language. Their focus is on the practice of sequences of *āsana* (yogic postures) and *prāṇāyāma* (breath retention techniques). Even though their development was strongly influenced by colonial India's interest in athletic practices, their founders and proponents have striven to legitimise their teachings, claiming direct correspondence to traditional religio-philosophical systems (*darśana*), namely *sāṃkhya-yoga* (mainly as expounded in the *Yoga Sūtra* of *Patañjali*) and *vedānta*. So far the main focus of the discussed study has been Iyengar Yoga, a style of practice developed by B.K.S. Iyengar (1918-2014).

For the purpose of the present discussion, Iyengar's interpretation of the concept of *puruṣa* will be presented. *Puruṣa* (sanskr. "man", "person") is a concept found already in the *Ṛgveda*. In *Puruṣasūkta* (ṚV 10.90) it is a being sacrificed during the cosmogonic act, whose body parts are described as homologous to the phenomena of the natural and social world. The Vedic *puruṣa* shares certain qualities with some of the deities, namely *Agni*, *Sūrya* and *Viṣṇu*[53]. The concept also likely bears the characteristics of a vital element and a conscious principle of the human being[54].

The latter part of the concept is developed in the upanishadic literature[55]. Here *puruṣa* is represented as a principle of subjectivity, related to the manifest (as opposed to the absolute or transcendent) aspect of reality. It is also a small entity, which resides in all "two- and four-legged cities"[56], and occupies the area of the heart[57]. It is an animating principle, making the body conscious[58].

The notion of *puruṣa* plays a central role in the dualistic ontology of *sāṃkhya-yoga*, where it is one of the two cosmological principles[59]. It is a conscious, yet passive and indifferent observer, substantially different from the manifest and unmanifest reality, but tied to it. It is transcendent (by virtue of its substantial otherness) and immanent at the same time (a multitude of *puruṣāḥ* are associated with particular psychico-physical entities). It inspires the process of creation (realised by the active yet unconscious principle of *prakṛti*), which results in its liberation (i.e. the breaking of its bond with the manifest world).

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49 Though indeed a basic mode of the construal of one's own body, it seems that the IS of a CONTAINER is not the first one to be applied during early development. See Sheets-Johnstone, "Thinking in Movement", 170 ff.

50 The possible relation between God concepts and the IS of a FLUID will be discussed further on.

51 De Michelis, "Modern Yoga and the Western Esoteric Tradition", 187 ff.

52 Singleton, "Yoga Body", 95 ff.

53 Brown, "The Sources and Nature of Puruṣa in the Puruṣasūkta".

54 Falk, "Mit psychologiczny w starożytnych Indiach", 13-56.

55 Kudelska, "Purusza jako zasada podmiotowości w myśli Upaniszad".

56 Bṛhadāraṇyakopaniṣad II.5.18.

57 Bṛhadāraṇyakopaniṣad IV.2.2-3; Kaṭhopaniṣad II.1.12-13, II.3.17.

58 Maitriyopaniṣad II.5.

59 Larson, "Classical Sāṃkhya", 154 ff.

The interpretation of *puruṣa* presented by Iyengar is largely informed by the concepts described above, but it has its unique characteristics, too. Iyengar's *puruṣa* is a distinct OBJECT located within the CONTAINER of the body. As "an absolute knower, awareness personified"[60], and "a Seer, not a player"[61], it is passive, but conscious. It is often equated with the concept of soul, Universal Self or inner divinity (often associated with *Viṣṇu*). Interestingly, being construed as a PERSON, *puruṣa* is equipped with a conscious principle of its own ("[t]he self exists in the self")[62]. Its mental structure reflects the mental structure of the human it inhabits - a notion of self-similarity is evident here, applying a synecdochico-metaphorical model, in which a part of a whole is similar to the whole. Additionally, Iyengar's *puruṣa* is construed as an OBJECT IMMERSED IN FLUID, hidden at a bottom of a lake and brought to float on the surface as a result of yoga practice[63]. In can move in the fluid breath, to touch "the inner layer of the skin"[64].

To summarise, in the studied example one deals with a concept of deity construed as a minuscule PERSON, equipped with a MIND typical of persons and seated within a CONTAINER of the human body. It is attributed the quality of omniscience (as an *absolute knower*), acquired through the modality of SIGHT. At the same time, it has the quality of a small physical OBJECT, which can float and sink in the FLUID filling the body (such as breath). This representation may be interpreted in terms of its counterintuitive (i.e. counterontological) and counterschematic qualities. *Puruṣa* is a PERSON, with the expectation sets of Spatiality, Physicality, Biology, Animacy and Mentality attributed to it by default[65]. The expectation of Spatiality is breached (as *puruṣa* is abnormally small), while the expectation of Physicality might be retained (it is subject to physical forces - it can sink and float), but possibly also breached (it can pass through all the tissues of the body, reaching the frontier of the skin). The expectation of Biology is not elaborated in detail, but supposedly its fulfilment may be assumed. The expectation of Animacy is breached, as *puruṣa* is entirely passive. There is also a breach of Mentality, as it is omniscient. Thus, one ends up with a concept with at least four ontological breaches, which qualify it as a MAX concept, rather not suitable for effective memorisation and transmission[66].

Of course, it might be argued, that some of the features of *puruṣa* are (counter)schematic rather than counterontological. Its infinitesimal size might be a violation of the learned knowledge, that persons are large enough to be seen. However, the knowledge of the existence of microorganisms (obviously available to Iyengar) renders this quality coherent with a familiar schema. In the same way, the breach of Physicality may be coherent with a learned schema, representing microscopic organisms as small enough to pass through tissues, which are not entirely solid when seen in great magnification. Thus, the model may be rendered much more intuitive by the application of schematic knowledge, available to all IY practitioners, who are usually old enough to posses the most general ideas related to microbiology. Still, this correction does not qualify Iyengar's concept of *puruṣa* unambiguously as a MCI concept, and does not say much about its momorability or similarity to other religious concepts (with the exception for the traditional representation of *puruṣa* summarised above).

Now a short detour is in place, explaining the method applied to the study of the discussed concept. Because the notion of IS (or of the basic conceptual units *sensu* Langacker[67]) provides the groundwork for the concept of linguistic meaning within Cognitive Linguistics (CL), IS analysis constitutes a basic tool for the study of linguistic expressions (beginning with single words and ending with complex narratives). It is the chief claim of CL that the semantic pole of linguistic constructions comprises of conceptualisation (i.e. dynamic mental construal) of the IS underlying them[68]. Thus the meaning of composite narratives

60 Iyengar, "Light on the Yoga Sūtras of Patañjali", 129.
61 Iyengar, "Light of Life", 137.
62 Iyengar, "Yoga Vṛkṣa", 74.
63 Iyengar, "Light on the Yoga Sūtras of Patañjali", 178.
64 Iyengar, "Light of Life", 60.
65 Cf. Barrett, "Coding and Quantifying Counterintuitiveness in Religious Concepts", 317.
66 Cf. e.g. Norenzayan, Atran, Faulkner, and Schaller. "Memory and Mystery", and Barrett, Burdett, and Porter, "Counterintuitiveness in Folktales".
67 See footnote 47, p. 98 of the present paper.
68 Langacker, "Cognitive Grammar", 15, 30 ff.

may be brought down to the assemblies of IS they are made of. This is precisely what has been done in the discussed study so far, as the author has been studying Iyengar's writings, sentence by sentence, to bring to the surface the most salient conceptualisations underlying certain concepts. The advantage of such method is, that it allows for the study of concepts in larger contexts, with other concepts they co-occur with. Thus, the notion of *puruṣa* may be positioned in relation to a vast set of other notions, which render it more comprehensible.

To give an example of such contextual relation, the concept of *puruṣa* may be juxtaposed to the concept of *buddhi*, one of the mental faculties of *sāṃkhya-yoga*. *Buddhi* is a component of *citta*, the tripartite conscious principle evolved from *prakṛti* during the cosmogonic process of *sāṃkhya*. It is the empirical consciousness[69], responsible for higher-order cognitive functions, associated with reflection. It is equipped with a disposition to acquire salvific knowledge, pertaining to its own substantial difference from *puruṣa*. The chief ignorance (*āvidya*) in *sāṃkhya-yoga*, resulting in suffering and the unbroken cycle of rebirths, is related to the inability to distinguish between *puruṣa* (the absolute consciousness) and *buddhi* (the empirical consciousness). It is, however, *buddhi* itself which can recognise this confusion and once and for all terminate the interdependence of *puruṣa* and *prakṛti*.

In Iyengar's writings, *buddhi*, like *puruṣa*, is represented as a minuscule PERSON residing INSIDE the human body. In fact, each part of the body or tissue has a *buddhi* of its own (expressions such as "intelligence of the knee" or "intelligence of the skin" are not uncommon)[70]. At the same time, however, it is represented as a FLUID, which may be distributed evenly inside the body[71]. The latter fact explains the notion of it being present in each body part - being fluid, it can be distributed into the knees, and it can also soak into the skin. To sum of, what one deals with is the construal of consciousness as FLUID FILLING THE BODY from within. This schematic representation is coherent with Iyengar's representation of *samādhi*, the final stage of *aṣṭāṅga* yoga of *Patañjali*, as "the tracing of the source of consciousness — the seer [*puruṣa*] — and then diffusing its essence, impartially and evenly, throughout every particle of the... body"[72]. This construal may be explained by assuming, that the fluid *buddhi*, upon reaching the centre of the body (i.e. the heart) where *puruṣa* is seated, recognises it (thus dispelling the *āvidya*) and carries it to the more peripheral areas of the body. The notion of "diffusing the essence" suggests, that *puruṣa* is dissolved in *buddhi*, and the homogenous SOLUTION is then evenly spread.

There is no room here to ponder the possibly counterintuitive status of *buddhi* in Iyengar's interpretation. However, it cannot be denied that the notion of a FLUID filling and flowing through the body is a very basic experience available to human organisms at a fairly young age. Needless to say, external contact with fluid substances is not uncommon, either. Thus, the IS of FLUIDITY is a very basic and familiar embodied schema, which renders the construal described above fairly comprehensible. The conceptualisation of consciousness and divinity in terms of FLUIDITY in various religious traditions (especially mystical ones) is surely a worthwhile pursuit, which might expose some interesting regularities visible at cross-cultural level.

An interesting matter, possibly partially explainable in terms of the aforementioned IS, is the suggestion concerning the cognitive expectation of Mentality presented by Barrett[73]. Reflections on the development of cognitive faculties in pre-school children (who acquire the ability to reason with disembodied imaginary friends at a fairly young age), lead him to believe that the conceptual activation of the expectation of Mentality does not require underlying assumptions of Biology and Physicality. The notion of Mind may be very well represented without a body accompanying it. This fact may be well explained in terms of embodied cognition - the experience of the reflective observation of one's own thoughts may render the thinker of those thoughts independent of a bodily form[74]. This leads to Barrett's discussion of the representation of

69 Chapple, "Living Liberation in Sāṃkhya and Yoga", 119.

70 Iyengar, "Yoga Vṛkṣa", 31; "Light of the Yoga Sūtra of Patañjali", 47. "Intelligence" is the term Iyengar applies to translate *buddhi*.

71 See e.g. Iyengar, "Light on Life", 28; "Light of the Yoga Sūtra of Patañjali", 65.

72 Iyengar, "Light of the Yoga Sūtra of Patañjali", 4.

73 Barrett, "Coding and Quantifying Counterintuitiveness in Religious Concepts", 319-321.

74 Cf. Ciołkosz, "Ahankara, buddhi, manas, purusza".

the Judaeo-Christian God as Mind (disembodied by virtue of the intuitive feature of minds' bodilessness, yet still located in space)[75]. The counterintuitiveness of the God concept lies in the fact that He is omnipresent. But, argues Barrett, if this omnipresence may be explained in terms of being evenly distributed across a very vast area, it becomes aligned with the intuitions regarding Spatiality. And where does the notion of even distribution come from, if not from the observation of fluids filling containers in a homogenous manner? Investigating the significance of the IS of FLUIDITY for the formation of notions regarding mentality and divinity seems like a worthwhile pursuit that may lead to fruitful conclusions.

Religious Concepts And the Ritual Embodied Experience. Forming New Intuitions

A cognitive approach to ritual was proposed in the seminal works of Robert McCauley and E. Thomas Lawson[76], as well as of Harvey Whitehouse[77]. The role of ritual in the memorisation of religious notions was discussed fairly extensively in Atran's equally seminal work[78]. However, it is still the complaint of scholars these days that not enough attention is given within CSR to the importance of ritual for the formation of religious concepts[79]. The great advantage of the enactive approach, with its focus on the embodied experience and embodied meaningful structures, is that it provides excellent tools to investigate the relation between action (e.g. sequences of ritual actions), the formation of concepts (e.g. religious concepts), and their linguistic formulations[80].

If ordinary sensorimotor patterns provide the basis for concept comprehension, so do the patterns realised during ritual. And these may differ from the ordinary ones. Chanting, dancing rhythmically, spinning relentlessly, inducing tremendous pain, constraining breath or remaining motionless for long hours provide novel ways of experiencing one's own body. Such altered embodied experience provides ritual participants with new affordances (i.e. conceptualisations of their bodies' possible interactions with environment)[81]. Consequently, these, in order, enable the broadening of the semantic structures used to represent religious concepts.

Within the Indian tradition, the author's field of interest, a strong correspondence between the experience of the body and religio-philosophical concepts is visible already in the upanishadic literature[82]. A tight relation between the embodied and the divine is especially visible in the medieval *haṭha yoga* tradition, in which the so-called mystical anatomy, visibly tied to the tendency to adopt particular bodily postures during ritual, provides the basis for complex soteriological concepts[83]. Within Iyengar Yoga, the embodied experience acquired during *āsana* and *prāṇāyāma* practice also shows great coherence with the schematic structure of religio-philosophical concepts adopted from *sāṃkhya-yoga*.

The author's ongoing study, whose first part was summarised on the foregoing pages, involves the juxtaposition of the IS derived from Iyengar's writings, pertaining to the categories of *pātañjala yoga*, to the IS which are especially salient during *āsana* ritual[84]. The performance of *āsana* sequences within IY is accompanied by very precise verbal instructions provided to the practitioners by teachers. These instructions describe in great detail the numerous motor acts, which need to be performed in order to

75 Barrett, "Coding and Quantifying Counterintuitiveness in Religious Concepts", 326-328.
76 McCauley and Lawson, "Rethinking Religion", "Bringing Ritual to Mind".
77 See e.g. Whitehouse, "Arguments and Icons". For a more recent take, see Whitehouse and Lanman, "The Ties That Bind Us".
78 Atran, "In Gods We Trust", 149-173.
79 See e.g. Purzycki and Willard, "MCI theory: a critical discussion", 25 ff.
80 For the discussion of the relation between language comprehension and action simulation, its neurophysical model and experimental research related to it, see e.g. Gallese and Lakoff, "The Brain's Concepts", 455-479, and Glenberg, "Toward the Integration of Bodily States, Language, and Action". Gallese and Lakoff provide, i.a., a neurophysiological model of the formation of IS.
81 Glenberg, "Toward the Integration of Bodily States, Language, and Action", 44-45.
82 See e.g. Wujastyk, "Interpreting the Image of the Human Body".
83 See McEvilley, "The Spinal Serpent", 93-113.
84 For the discussion of IY *āsana* practice as a ritual see De Michelis, "Modern Yoga and the Western Esoteric Tradition", and Ciołkosz, "The Quasi-Linguistic Structure of Iyengar Yoga *Āsana* Practice".

achieve the desired pose. Thus, the actual physical forms of the postures (especially those experienced by the researcher engaged in participating observation), paired with transcripts of the teachers' commands, provide an excellent material for linguistic analysis. During such analysis, the author obtained some interesting data, which may be used to explain the specificity of the concepts of *puruṣa*, *buddhi* and *samādhi* discussed on the foregoing pages.

A careful description and execution of an *āsana* involves precise delimitation within the practitioner's body of small areas, which become reified. The examples of such areas, whose size decreases as practice progresses, may be *a kneecap, the top of the thigh, the front inner groin, the skin on the sides of the neck* or *the web between the big toe and the second toe of the right foot*. As a result, the body is conceptualised and felt as a system assembled of numerous, very small objects. The specific linguistic constructions applied by teachers during practice, such as the use of simple imperatives (e.g. *lift the kneecaps, suck the skin on the sides of the neck into the cervical vertebrae*), or the dropping of possessive pronouns in front of body part names (i.e. *lift the kneecaps* rather than *lift your kneecaps*), result in the removal of the practitioner as agent from the conceptualisation of the performed actions. As an outcome, the body parts are construed as self-propelled. As the practitioner still needs to exert his or her will to bid those animate body parts move, the notion of communication and, as a result, mentality of the body parts emerges. Thus, the aforementioned kneecap or the web between the toes becomes a tiny person. As body parts become personified, the reified conscious principles adopted from the *sāṃkhya-yoga* tradition (e.g. *buddhi* and *puruṣa*), incorporated into an extended model of the body, are personified as well. Moreover, the background knowledge that a person is equipped with a mental apparatus comprised of *buddhi* and *puruṣa* results in the attribution of these principles to each and every part of the body.

Anthropomorphisation of infinitesimal body parts provides the basis for the notion of even distribution of the *buddhi-puruṣa* conscious solution inside the body, achieved in Iyengar's *samādhi*. This notion, however, is enforced by yet another kind of experience. As the practitioner represents the *āsana* he or she performs, their attention moves across the body - from the web between the toes, towards the kneecap, the front inner groin, up to the skin on the sides of the neck and the rupee-sized crown of the head. It also moves inward, from the skin on the neck towards the cervical vertebrae, and outward, from the shoulder-joint socket to the skin on the tips of the fingers. Such conceptualising activity, referred to as *scanning* by Langacker[85], results in the notion of the practitioner's attention *flowing* along and inside the body - hence the IS of FLUIDITY, characterising the conscious principle of *buddhi*. As *āsana* practice progresses, the numerous motor patterns of different body parts need to be represented and performed simultaneously, so that the mental scanning of the model of the body should follow in a *summary*, rather than in sequential fashion. Such experience results in the notion, that the conscious fluid fills the entire body in a uniform manner - *samādhi sensu* Iyengar is attained.

Conclusion

The foregoing summary hopefully demonstrates how a careful study of religious narratives and the sensorimotor patterns characteristic of ritual activity may contribute to a better understanding of the origin of religious ideas. Taking into consideration not isolated concepts but rather textual materials and sequences of actions, provides a broad context in which these concepts may be situated. Applying the category of *embodied cognition* makes it possible to analyse religious representations not only from the vantage point of postulated innate conceptual structures (such as *ontological categories*), but from the perspective of the actual, everyday experience, continuously influencing human cognitive structures and propensities. The vast category of image schemata allows for a more detailed and flexible description of religious concepts than a rather rigid system of ontological categories, with their limited number of transfers and breaches.

85 Langacker, "Cognitive Grammar", 82 ff. Scanning may be performed through a variety of conceptual domains; in the given example it is the domain of one's own body.

It is hoped that a broader application of the enactive approach and the notion of *image schemata* to the study of religion will contribute to the development of a comprehensive view on the structure of religious concepts in different traditions. Such studies may provide a better understanding of not only what kinds of conceptualisations are most common in religious discourse but also of what kinds of experience contribute the most to the shaping of religious thought. Such pursuit would bring valuable developments to the Cognitive Science of Religion.

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