Human (and non-human) experience covers a wide spectrum of mental activities – cognitive, affective, volitional, perceptual, conscious, non-conscious, discursive, non-discursive, aware, unaware, ordinary, and extraordinary, e.g. mystic or religious experiences. The fields to study this many-faceted spectrum range from cognitive science over psychology, psychophysiology, neuroscience, philosophy of mind, to phenomenology and religious studies. Ordinary cognitive states may be regarded one end of the spectrum, experiences of connectedness and ultimate oneness with the universe point to the other end. The present issue of *Mind and Matter* offers an excursion through the varied manifestations of what “experience” may refer to.

The first paper along this tour, by Venkata Rayudu Posina, Dhanjoo N. Ghista, and Sisir Roy, addresses the level of ordinary cognition. The authors propose to consider the sequence from physical stimulation over neural coding and mental conception to conscious perception, leading to what an individual may call his or her cognitive knowledge, in parallel to the formal treatment of knowledge in mathematics. The formal tools they suggest to do this are taken from one of the most general areas of mathematics: category theory.

The analogy works like this: the sequence from cognitive stimuli to conscious awareness is mapped onto the formal sequence from particulars to models via theories and measured properties. The basic elements in this proposal are mappings of theories and models to categories and functors, whose adjointness represents the relation between abstraction (of theories) and interpretation (to obtain models). Since interpretation is an indispensable part of this scheme, the overall framework has been denoted “functorial semantics” by its originator William Lawvere. Posina *et al.* outline this framework to considerable detail, and suggest that it might provide proper tools for a formally grounded science of cognition.

Pavel Kraikivski’s article presents another, less abstract, formal approach to neural correlates of consciousness as minimal sets of neural events that are sufficient for a specific conscious percept. Inspired by Chalmers’ idea that qualia are intrinsic properties associated with functional organization, his approach is based on a matrix of processes (not states) describing all mutual interconnections between these processes. Over and above this, Kraikivski sees an important ingredient for an advanced theory of consciousness in a “completeness” property, meaning
that any internal process must be expressed through mutual relationships with the other processes forming its complement.

The goal of this work is to create simple computational model systems that can mimic a specific phenomenal experience, such as a position in space, shape, size, etc. Although referring to related work by Walter Freeman and the Fingelkurts twins, Kraikivski does not have experimental evidence for his hypothesis so far. One may, however, compare his approach with the sophisticated empirical work of Giulio Tononi and his group who also model qualia in the spirit of Chalmers.

The article by Michele Farisco, Steven Laureys, and Katinka Evers focuses on the intrinsic (resting-state and spontaneous) activity of the brain as a correlate of a basic, undifferentiated form of phenomenal consciousness. This paves the way to address conscious experience as a continuum, from most refined cognitive states of awareness to states of deep sleep, anesthesia, coma and even vegetative states. In this way, they suggest to replace the notion of the unconscious by kinds of conscious experience that may come in degrees.

Accordingly, this should apply to disorders of consciousness as well, and this has severe ethical implications for the diagnosis and management of patients with disorders of consciousness. There has been impressive progress studying such disorders recently, and investigations of what was long understood as unconscious activity has been demonstrated as much more complex and much closer linked to higher cognitive functions than one might have believed earlier. The so-called “new unconscious” is no longer a domain blocked to our experience, and Farisco et al. describe the rich body of evidence we have for this today.

Jay Schulkin presents his deliberations about a specific arena in which mind, brain and body are strongly interrelated: sports. Sports is not only about movement but it is about predictive processing as well, thus exemplifying that motor action and perception are cyclically coupled. Athletes exercise and practice their performance to a degree at which the action-perception cycle becomes almost “automatic” – of course not unconscious! – and yet reacts to and anticipates minute details important for the next move to make. In the limit of a perfect balance between challenge and capability, we are talking about “flow experiences”, or “being in the zone”.

Schulkin also discusses the central role of dopamine in sport performance, a neurotransmitter linked to reward, motivation, mobilization, salience, and prediction. Interestingly, all these behavioral traits are important for both cognition and movement, which provides another, indirect piece of evidence in favor of the tight interdependence of action and perception. The final sections of Schulkin’s paper discusses throwing as a particular example ranging from its evolutionary perspective to various ways it is executed in sport.

The long article by Christopher Fuchs introduces his work on interpret-
ing quantum mechanics on the basis of subjective probabilities, shortly Quantum Bayesianism, even more shortly QBism – an approach which could not be more epistemic and shares this feature with Niels Bohr’s Copenhagen interpretation. But there are also major differences between the two ways to understand quantum mechanics and the peculiar features that it exhibits. One key point in QBism is that Born’s rule for how to derive probabilities for quantum events, as subjective experiences, is regarded as normative rather than descriptive: a truly radical move, which evidently initiated heated and controversial debates about it.

From an editorial point of view, one specialty of the article is the historical background of QBism that it sketches. The author is arguably the main originator of QBism, and he describes how his thinking developed already during the time he listened to lectures by John Wheeler at UT Austin in the 1980s. It is rare, and laudable, for scientific publications to include both the context of justification and the context of discovery of an idea in one and the same piece.

The other specialty, now from a philosophical point of view, is that this paper is the first time Fuchs openly speculates about how QBism might relate to neutral monism à la William James, and panpsychism as well. If quantum theory itself is to be read epistemically, its underlying ontology, so Fuchs argues, should be grounded in a psychophysically neutral domain such as what James called “pure experience” – not to be confused with the subjective first-person experience of quantum events per se.

This issue concludes with Tobias Widdra’s personal reminiscences of our members workshop at the Zen Center Johanneshof in the Black Forest (Germany). The Center is run by Nicole Baden and Richard Baker, one of our members who generously offered us to use the facilities of the Center for three days in May 2017. The report reflects the flavor and intensity of the workshop – thanks Nicole and Richard, to be continued!

The next members workshop of the Society will be held at April 1, 2018, the day before the conference “The Science of Consciousness” begins at the Ventana Canyon Resort at Tucson. After the workshop, we will hold the biennial general assembly of the Society for Mind-Matter Research. All members are encouraged to participate and will receive a separate invitation with the detailed agenda in due time.

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It is a great pleasure to inform our readers that Lana Kühle, Professor of Philosophy at Illinois State University (Normal), accepted our invitation to join the editorial team of *Mind and Matter*. Lana’s interests are at the intersection of philosophy of mind, phenomenology, and philosophy of neuroscience. She has published on issues relating to the empirical study of body illusions, and on the connection between William James and the
“embodied mind” theory. Her current research focuses on issues of bodily awareness and the subjectivity of consciousness.

Lana’s editorial responsibilities at Mind and Matter will focus at the editorial supervision of theme-oriented special issues and the acquisition of corresponding submissions. She did already guest-edit the issue preceding the present one with papers from a conference at Chicago that she co-organized with the Institute for Prospective Cognition and the Society for Mind-Matter Research.

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As announced previously, the Society for Mind-Matter Research institutes a best-paper award for articles published in its journal Mind and Matter in order to recognize excellence in scholarship and to increase the visibility of the Society and its range of activities.

The inaugural Mind-Matter Prize 2017 is awarded to Prof. Thomas Metzinger for his article Out-of-Body Experiences as the Origin of the Concept of a Soul, published in Mind and Matter in 2005. The prize is awarded in recognition of Prof. Metzinger’s outstanding work on the mental representation of the concept of the self in general, and its application to a better understanding of exceptional experiences in particular, which this article represents.

The prize is awarded biennially. Any member of the Society can nominate one paper for consideration. Excluded are self-nominations of own papers or nominations of papers authored by current members of the Board of the Society. Otherwise, any paper published in Mind and Matter is eligible for the award.

Nominations should be backed up by criteria such as originality, significance, soundness, and relevance for the understanding of mind-matter relations. They should be submitted to the board member in charge, currently Prof. William Seager (Toronto), at seager@utsc.utoronto.ca.

The winning article will be decided by a committee formed by members of the Board and possibly up to one external assessor. The award committee is not obligated to appoint the award if no nominated paper is judged worthy.

The winner of the award will present the paper (or work based upon it) at a suitable conference or workshop to be decided upon by the Society. Financial aid will be provided to this end.