Book Reviews

Robert Arp
Scenario Visualisation:
An Evolutionary Account of Creative Problem Solving
Cambridge, MA: MIT Press, 2008, 209 pp., £19.95
ISBN 978-0-262-012447 (hbk)

Reviewed by Rob Jarman

A pressing question for cognitive evolution is — how did we come to solve novel problems by the invention of new tools? Arp's theory is a welcome framework for the quest to answer this and related questions. He builds on Mithen's account of cognitive fluidity and creativity by claiming that consciously directed visualising is the key to understanding the creative leaps in the invention of new tools.

The author is a philosopher of biology and mind and a researcher at the National Center for Biomedical Ontology (New York), with many publications in evolutionary psychology. For Arp, the central questions for philosophers and biologists interested in cognitive evolution are; how do humans differ in essence from the rest of reality and how did we get to be this way. But the more manageable 'piece of the puzzle' tackled in this book is how we came to solve novel visually based problems and how this ability relates in evolution to consciousness and advanced tool use. Scenario Visualisation (SV) is conceptualised as a consciously directed activity by which visual images are selected, integrated, recombined and projected into imagined visual scenarios. These scenarios go beyond 'simple' images in being more like choreographed action sequences. It is conscious creative agency that synthesises the elements of the problem, the desired goal and the actor's behavioural repertoire into a realisable problem-solving event. This combinatorial and emergent aspect of consciousness enables, by the creative fusion of disparate elements in wholly novel ways,

breakthroughs to solving non-routine problems. The insight by Horace Wells that nitrous oxide could be used to relieve the pain of tooth pulling is a medical example of such creative innovation. Arp's project is to develop an evolutionary account of this uniquely human ability for creative (visual) problem solving. The book expands on an earlier JCS article (Arp, 2005), illustrating the thesis with further concrete examples (though more would help) and giving detailed philosophical justification for the author's stance on a number of issues such as emergence, the mind-body problem and reductionism.

The first chapter outlines the view of the organism as a hierarchically organised system with data exchange and integration at different levels, both within the organism and between the organism and the environment. This background underpins the view of SV as an emergent conscious capacity analogous to emergent neurobiological functioning at different levels of the visual system.

Chapter 2 discusses, at some length, certain philosophical distinctions between varieties of emergence but it's unclear to this reader just what is, or can be, explained by emergence. To say that consciousness (or intelligence) arises from elements that are themselves not conscious or intelligent describes the challenge for an explanatory theory. 'As-If Realism' is favoured, on pragmatic grounds, for cognitive theorising.

The neural architecture of the visual system is then described in some detail, arguing that the features of information exchange, selectivity and integration are the necessary basis for SV. But just how this specific architecture constrains or facilitates SV could be further explicated. Then follows an outline of four levels of visual processing. First is noncognitive perception without awareness (e.g. blindsight). Next up the scale is a (cognitive) level with awareness of the what or where of perceived objects and a third cognitive level in which identity and spatial aspects are integrated into unified percepts. The fourth level is consciously directed SV, the prerequisite for (or perhaps correlate of) creative (visual) problem solving. The evolution of the mammalian visual system from primitive protozoan light-dark sensitivity all the way up to SV is described at length, though a condensed account of this background (with pointers to standard texts) might suffice for the general reader.

The various parts of the story are then brought together in the final chapter. Visualising novel combinations of existing tools and actions can achieve new goals. The creative solving of practical challenges by innovative tool making is convincingly argued to depend on SV. Examples are the serendipitous invention/discovery of the harpoon

and javelin, neatly illustrated with comic strip thought bubbles, reminiscent of Köhler's account of insight learning in the apes of Tenerife. The visual elements of shaft, flexing arm, barb and basking shark are envisaged to spontaneously self-assemble (with a little conscious help) into a novel gestalt of weapon-and-action-plan; the harpoon. The exact way that conscious control and effort can enable this happy fruition is left under-specified in an otherwise detailed chain of reasoning. Presumably SV also has a role in the jointly planned and envisaged co-operative activities of hunting, farming and building. An account of how SV might function in social behaviour, communication and Theory of Mind remains a promising line for future theory — to round out the picture.

So the potential range for the application of the SV thesis would seem to be huge. The evidence for SV in evolution is found in the different kinds of complex tools (including tools for making tools - the metacognitive watershed) invented by hominin ancestors in response to challenges of the changing Pleistocene world. Further converging evidence for the evolutionary role of SV comes from reports of creative inventors (with the usual caveats) and also from imagery and neurobiological research showing that visual perception and imagery use the same areas. In traditional accounts of creativity consciousness features mainly in the final verification and testing phase. But in Arp's account, consciousness is centre stage — directing and controlling the creative visual process. In this additional emphasis, his theory extends on Mithen's ideas of cognitive fluidity, flexible interchange of information amongst modules, by having conscious direction and control as the driver of creative problem solving. The claim that consciousness actively instigates and monitors this combinatorial visual exploration in the creative search for new technology, as well as evaluating generated candidate solutions, is a bold assertion. Further evidence that SV has a causal role in (and is not just a correlate of) creative tool invention will greatly strengthen the claims of the theory.

There's no doubt of the enduring fascination and interest of the whole area of imagery, imagination and creativity and their intermeshed roles in the evolution of the conscious life of our species. Arp's book is a valuable resource and a stimulating contribution to this fast growing area of research and speculation.

Reference

Arp, R. (2005), 'Scenario visualisation', *Journal of Consciousness Studies*, **12** (3), pp. 31–60.

Rödl, Sebastian
Self-Consciousness
Cambridge, MA: Harvard University Press, 2007, 222 pp., $39.95
ISBN: 0674-02494-X (hbk)

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In this extremely ambitious book, Sebastian Rödl attempts to revive what he takes to be a fundamental insight of German Idealism: the philosophical study of action, belief, and knowledge must be pursued as part of a theory of self-consciousness, and vice-versa. Indeed, Rödl argues that much of the confusion in contemporary epistemology and action theory can be traced back to their failure to realize that self-consciousness is the principle of their subject matter. As a result, *Self-Consciousness* is as much a treatise on action theory, ethics, and epistemology as it is a contribution to the typical sorts of philosophical issues one associates with self-consciousness. The book also ventures into metaphysical terrain, since by Rödl's lights, an account of the form of knowledge constitutive of self-consciousness yields 'the metaphysics of the self-conscious subject' (p. x). Rödl finds support for this expansive approach to the theory of self-consciousness, and fodder for some of his central arguments, in the works of a number of contemporary authors, including Gareth Evans, John McDowell, and G.E.M Anscombe.

Rödl's central thesis about the nature of self-consciousness is one that has obvious roots in German Idealism: first-person knowledge of thinking is 'spontaneous,' springing from thought about what to do and believe. Eschewing idealistic metaphysics, Rödl maintains that the spontaneity in question is a material reality. In the course of defending and explicating this thesis, Rödl finds occasion, among other things, to resolve the 'antinomy' between internalism and externalism; to forge a compromise between naturalist and normativist approaches in epistemology; to interpret Kant's notion of autonomy; to provide a definition of knowledge that secures its own reality; and to explicate the nature of second-person knowledge. Notwithstanding its relative brevity (a mere 200 pages), *Self-Consciousness* covers far too much ground for me to do even partial justice to its wealth of fascinating insights and arguments here. Instead, I focus on two topics whose treatment is presupposed by much of Rödl's later analysis: the distinction between first-person reference and other kinds of reference, and the relationship between first-person reference and knowledge of *intentional action* and *belief*.

Rödl treats these topics in the dense first chapter of *Self-Consciousness*. In the course of laying out the conceptual apparatus necessary for formulating and answering philosophical questions about self-consciousness, he distinguishes descriptive, demonstrative, and first-person reference, and recasts inquiry into first-person reference as an inquiry into knowledge of intentional action and belief. His analysis runs as follows. He begins with a standard characterization of self-consciousness as reference to oneself as oneself. Since reference to oneself as oneself is expressed linguistically with the first-person pronoun, Rödl concludes that an inquiry into the nature of self-consciousness is an inquiry into the sense of 'I.' In explicating the nature of this sense, Rödl borrows Evans's idea that the sense of an act of reference is a 'logical perspective' on an object; this logical perspective delimits the range of unmediated judgments we can form about the object, where a judgment 'x is P' is unmediated when it does not rest on the prior judgments that 'y is P' and 'x=y' (p. 5). Rödl maintains that different forms of reference correspond to different senses, or principles of unmediated knowledge. In the case of descriptive reference, the principle of unmediated knowledge is an individuating concept. In the case of demonstrative reference, the principle is a perceptual relationship with the object. Because perceptual demonstrative judgments are identification-free, Rödl argues that demonstrative reference and predication based on perception are 'internally related' (p. 7). If I refer to 'this' demonstratively, I am thereby in a position to make unmediated perceptual judgments about something; conversely, if I judge that *something* is F on the basis of perception, I thereby judge that *this* is F.

Though first-person reference, like demonstrative reference, depends on a knowledge-providing relationship with an object, this is not a perceptual relationship, since 'perception is a way of knowing something other or oneself *as other*' (p. 8; emphasis in the original). Rather, according to Rödl, the knowledge-providing relationship relevant for first-person reference is identity: first person reference depends on a way of knowing that I am F by being F. Rödl calls this way of knowing 'knowledge from the inside' or knowledge of oneself as oneself (p. 9). Just as demonstrative reference and predication based on perception are internally related, Rödl contends that first-person reference and knowledge from the inside are internally related: when I know that *something* is F in this way, I thereby know that *I* am F. Because of the internal relation of first-person reference and knowledge from the inside, Rödl concludes that first-person reference must be understood through this form of knowledge. Since, according to

Rödl, the concepts we predicate of ourselves when know ourselves from the inside are, in the first instance, concepts of thought — in particular, concepts of practical and theoretical thought — an inquiry into self-consciousness must begin with the concepts of action and belief, or so Rödl claims.

Since the later chapters build on this initial analysis, it is reasonable to ask at this point whether Rödl (1) has adequately explained the difference between first-person reference and other forms of reference, (2) is right to treat first-person reference apart from other forms of reference, and (3) has motivated his exclusive focus on the self-ascription of concepts of theoretical and practical thought. With regard to the first question, Rödl takes dependence on a perceptual relationship to be the key factor that distinguishes demonstrative reference from first-person reference. Rödl complains that the true account of why first-person reference does not depend on perception is rarely noted in the literature: 'it is not in the nature of perception that she who perceives is she who is being perceived' (p. 8). However, it is not obvious that this is a satisfying and substantive explanation. After all, who is to say what is and isn't in the nature of perception?

Moreover, if Gareth Evans (1982) is correct that (a) certain prominent instances of knowledge of oneself as oneself do depend on perception, such as my knowledge, based on perception, that I am in my room in front of my bed, and that (b) first-person thought requires at least the capacity to locate oneself in the world by means of perception, then there is an important connection between perception and first-person reference that Rödl's account obscures. In general, Rödl does not seem to take seriously the possibility that first person reference might depend on a number of ways of gaining information of ourselves (e.g. proprioception), some of which overlap with those of demonstrative identification. This is curious, because the knowledge-providing relationship he takes to be constitutive of self-reference (namely, identity) can seem a little mysterious, particularly in comparison to more familiar ways of gaining knowledge of ourselves as ourselves.

With regard to the second question, even if we assume that Rödl has provided an adequate explanation of the distinction between first-person reference and demonstrative reference, and shown that the former is not just a special case of the latter, this does not mean that it is wise to attempt to understand first-person reference in isolation from other forms. Indeed, though he denies that first-person reference can be reduced to other types, Evans maintains that 'I' thoughts and 'here' thoughts 'are really two sides of a single capacity, each wholly dependent on the other' (1982, p. 256). If that is true, then a complete

account of the one must also include the other. Unfortunately, Rödl does not discuss the nature of 'here' thoughts in *Self-Consciousness* (nor, for that matter, does he discuss, more generally, the relationship between spatial thinking and self-consciousness). It is at least possible that there are some philosophically interesting features of first-person reference that he misses by overemphasizing its special character and considering it in isolation from the other forms of reference. (Evans, by contrast, treats 'I' thoughts in close connection with 'here' and 'this' thoughts, an approach which he sees as justified because of their substantial overlap and interconnection.)

As for the third question, one might think that a natural place to start when seeking to understand 'knowledge of oneself as oneself' is first-person knowledge of heat, pain and other sensations, since when I know that someone is warm is by being warm, it does not make sense to ask: 'someone is warm, but is it I?' (In other words, such knowledge satisfies the formula of knowing that one is F by being F.) However, Rödl denies that reflection on concepts of sensation can offer us any insight into the nature of self-consciousness, since sensations occur in animals that are not self-conscious. Rather, he maintains, we need to begin with concepts of thought, since what I know myself to be when I know myself as myself is a subject of *thought*. But there is room to question whether this reasoning fully justifies Rödl's approach, which takes concepts of action and belief to be the proper starting point for an investigation into self-consciousness. By Rödl's own lights, we also know ourselves to be material substances when we know ourselves as ourselves, and material substances are subjects of physical predicates. My knowledge that I am in a bedroom seems to be just as much knowledge of myself as myself as my knowledge that I hold a certain belief or that I am performing a certain intentional action; it is not obvious that it can be reduced to, or explained in terms of, first-person knowledge of *thought*. In general, it is not clear how Rödl's approach, which takes self-consciousness to be essentially related to concepts of *thought* (and only accidentally related to other sorts of predicates), can account for first-person knowledge of sensations, memories, and physical properties (e.g. one's position relative to other objects).

My comments here have only scratched the surface and I in no way take them to detract from the book's many merits. I have hardly done justice to the fascinating, systematic philosophical project that Rödl carries out in later chapters. *Self-Consciousness* deserves (and amply repays) careful study.

Reference

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Susan Blackmore
Ten Zen Questions
Oxford: OneWorld Publications, 2009, 180 pp., £12.99 / $19.95
ISBN 978-1-851-686421 (hbk)

Reviewed by Anthony Freeman

Zen is a branch of Buddhism, but it has been presented in the West as a technique rather than a belief. That is why it appeals to Susan Blackmore and the many like her, who are seeking a mental/spiritual discipline without the doctrinal baggage and worship associated with religions like Christianity. She is quite clear at the outset: 'I am not a Buddhist. … I am someone with a questioning mind who has stumbled upon Zen and found it immensely helpful.' She likens it to science, in that both demand 'that you ask questions, apply disciplined methods of enquiry, and overthrow any ideas that don't fit with what you find out' (p. 3).

So the *Ten Zen Questions* of this book's title are not questions 'about' Buddhism but questions tackled 'in the Zen manner'. Their content — quite literally their 'subject' matter — are the familiar themes of this journal: conscious thought, the nature of subjective experience, time and memory. For instance, Question 1: 'Am I conscious now?' Their purpose is to get deep into the assumptions that people make about their own consciousness.

Science typically tries to discover which things are 'conscious' and which 'unconscious' at any given time, and so to establish the elusive neural correlates of consciousness. But when Blackmore looks hard into experience, in the Zen manner, she finds that there is no such conscious/unconscious distinction. Thus Zen is not so much answering the questions science asks, as giving a reason to question the questions themselves.

Most of the book is autobiographical. Much of it is in the present tense. If its author were anyone else I should describe it as a stream-of-consciousness narrative, but since it is Susan Blackmore I shall call it a pixels-of-the-illusion-called-consciousness account.[1] Here is a sample from the middle of her discussion of her first Zen question:

> Am I conscious now? Yes.
>
> Ah, here's a new question: Can I stay this way?
>
> A funny thing happens again and again. I ask the question. I answer yes. I am fully conscious now, I have woken up to this present moment.

[1] See 'There is no stream of consciousness' Blackmore (2002) and the final chapter of the book under review, which begins: 'Consciousness is an illusion; an enticing and convincing illusion …' (p. 160).

> Right. This is easy. Here I am. But before I know it I am far away in distraction, thinking about something else, being angry with someone, being miles away in the past or the future or something completely invented and troubling and annoying.
>
> The question appears again (from where?). I sigh. Lost again. Yes, I am conscious now, but where was I? Forget that for a moment. Steady. Ask the question.
>
> Am I conscious now? Yes.

This kind of writing demands the same kind of discipline from the reader as is being described by the writer. The reading becomes a reliving of the experience. Like reading poetry. Like meditating itself. Otherwise the pace, the notable lack-of-pace, soon becomes intensely irritating. (I note that having typed out just that short extract of *Ten Zen Questions* I am starting to write like Sue does — living her experience maybe?)[2]

The sense of the author laying bare the soul she believes she does not have is heightened by the inclusion in this book of a 'Response' by her Zen teacher. His comments are forthright and personal; for all her attempts to take the Zen way, he tells her, the unregenerate western intellectual is there from the start and wins out in the end:

> You state you are not a Buddhist and thus do not encounter the paradox that experienced Buddhists should know, viz — that they are 'not-Buddhists'. 'Buddhist' just points to a practice NOT a definition of identity. Can one practice Zen without being (called) a Zen Buddhist? By adopting this self-definition, you create a dualism of which you remain unaware. … This hidden opposition within self-identity continues to operate in a cryptic fashion throughout your text and ultimately causes you to hit the buffers (p. 168).

Despite this built-in health warning, I do recommend this book both to Susan Blackmore's many admirers and to her detractors. Whatever your attitude to her well-known and often controversial views, it offers a rare insight into the experiences that have given rise to them. But read it slowly and reflectively, or not at all.

References

Blackmore, S. (2002), 'There is no stream of consciousness', *Journal of Consciousness Studies*, **9** (5–6), pp. 17–28.

Visser, F. (2003), *Ken Wilber: Thought as Passion* (New York: SUNY Press).

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[2] Would the effect have been even stronger if I had written out her words by hand? The young Ken Wilber studied and literally 'embodied' the skills needed for writing by dint of copying out, sentence by sentence, more than a dozen books by a writer whose style he admired (Visser, 2003, p. 19).

BOOKS RECEIVED

Mention here neither implies nor precludes subsequent review

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