

THE SCIENCE OF PERCEPTION BY ISRAEL ROSENFELD

For Alice Anderson, the movements around the object suggest a journey through the memory process: "The weaved objects are not a tribute to the past but a reflection of the present that offers a vision of the changing world."

Alice Anderson's art is a wonderful illustration of the nature and ambiguities of memory. And since memory is central to human and animal psychology and to the functioning of the brain, her work captures a deep aspect of our mental worlds. For animals and humans are constantly moving and this creates a perceptual problem: our sensory worlds are unstable. Our sensory worlds change all the time. What the brain must do – it is probably the principal reason brains evolved – is create a stable, coherent sensory environment that we can understand and use. The brain does this by 'inventing' a range of perceptions, a series of constructs that we 'see', 'hear' and 'feel' when we look, listen and touch. Alice Anderson's objects wound in copper capture an aspect of how the brain makes possible the creation and re-creation of our familiar and unexpected visual worlds by connecting our perceptions over time.

THE MYTH OF STORED MEMORY IMAGES

A myth has long dominated our conception of memory: that we can accurately remember people, places and things we have seen because images of them have been imprinted and permanently stored in our brains. These images, the myth has it, are the basis of recognition and thought and action. But we are much better at recognition than this would suggest. We recognise people despite changes wrought by ageing. We recognise Picasso's style even in a painting of his that we have never seen before. When we do this, we are doing more than recalling earlier impressions. We are recognising categories that can accommodate variation.

Our capacity to remember, then, is not about recall of a specific image stored somewhere in our brain. Rather it is an ability to organise the world around us into categories – some general, some specific. When we speak of a stored mental image of a friend, which image are we referring to? Unless we understand how we categorise people and things and how we generalise, we will not understand how we remember.

Our conscious recollection – and our thinking and awareness in general – has a continuity over time. Our awareness comes from a flow of perceptions, from the relations among them (both in space and in time), and from our dynamic but constant relation to them that is our unique personal perspective: our subjectivity. An essential part of our subjectivity is the complex network of interconnections that are established by the brain. Hence what appear to be new forms are in fact re-imaginings or re-categorisations of familiar objects. The past becomes the present as Anderson's Art suggests.

This is the significance of Alice Anderson's copper-wound window frames, basketballs and computers. We recognise the window frames, the basketballs and the computers even though they have been transformed. And we see her collaborators moving and winding the objects in copper wire. Here is Anderson's description of her art – a description that parallels what I have written and yet has a somewhat different perspective: "The movements around the object suggest an alternative journey through the memory process. The gestures interrogate how we create, recall, transform and seal the past to imagine the future. To me the 'weaved/mummified' objects are not a tribute to the past but a reflection about the present that gives a vision of the changing world."

Perception, like recognition, is part of a continuity of experience. Our sense of colour, or of smell, or of motion, comes precisely from the flow of perceptions and from the comparisons and categorisations the brain makes from moment to moment. For example, motion pictures give us a sense of continuous movement by means of a series of static images presented in rapid succession. Our conscious experience is not of one static image followed by another. Instead we see motion because our brains create motion, by relating one image to the next. In general, it is this relating, this connecting between moments, not the moments themselves, that is at the heart of our perceptions and recollections. Without this activity of connecting, we would merely perceive a sequence of unrelated stimuli from moment to unrelated moment and we would be unable to transform this experience into knowledge and understanding of the world.

MADAME M'S LOSS OF CONTINUITY

Sometimes this making of connections can fail. Neurological damage can cause a loss of the ability to establish relationships among perceptions and memories, with deeply disturbing consequences.

In 1923 Joseph Capgras and Jean Reboul-Lachaux described a patient, Madame M, who thought her husband and children were impostors. They were, she claimed, very clever look-alikes of the members of her family, and she was not going to let herself be fooled by them. She 'knew' her real husband and children had been kidnapped and the impostors were trying to get her money from her.

Capgras and his co-author argued that Madame M's problem came from a disconnection between her emotions and perceptions – she did not have the normal emotional reaction we have upon seeing someone we know intimately. But, more profoundly perhaps, Madame M's neurological breakdown had prevented her recognising the continuity in her family as they even slightly changed over time. As she explained, "You can see it in the details": her husband's moustache was longer than it had been the day before; his hair was combed differently; his skin had become pale and he was wearing a different suit.

In other words, Madame M was confronted by a parade of constantly changing husbands and children – they looked almost alike, but in every case there was something different, something that was misplaced. For her brain, this was the clue that she was dealing with impostors. Her brain was unable to create a synthesis of the constantly changing images she was seeing, unable to connect them, unable to integrate them into a flow of interrelated visualisations of her husband and children. She was getting stuck in the details that change over short periods of time and her memories could no longer accept these changes. She had lost her sense of her husband and children as changeable yet enduring people.

Indeed, Anderson's transformations of familiar objects and people with copper windings can illustrate the abnormality of Capgras syndrome; the failure of recognition of intimate family and friends comes about with the change of merely one detail. But the copper-wound sculptures are transformations on a far larger scale, and we – if we do not have the neurological problem of Madame M – still recognise them.

THE SENSE OF TIME, SELF AND BODY

A grasp of continuity over time is also essential to our own sense of self. While Capgras syndrome involves an inability to relate someone else's present and past, difficulty relating to one's own past can be a feature of autism.

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Donna Williams, an autistic writer, has described having problems with “the sense of time and the continuity (or lack of it) in my sense of personal history”. To overcome this, she chronicles her life: “Albums with the day's events, key works, objects collected through that day to do with smells and tastes and textures experienced and pictures or photos that capture things that happened that day, can all be put together in a way that can make up month by month accessible libraries. These can be kept year after year so that a person can look through them at any time and get some sort of composite sense of who they are.” Anderson's sculptures – while very different from a simple memory album – serve to establish a sense of continuity over time (and space). They connect us not only to the original objects but also to the occasions when they were created and the actions of Anderson's and her collaborators.

A similar approach – using details of events to build a sense of time and self – can also help on a smaller scale. One autistic child, when asked questions about what he did “yesterday”, “last week” or “a few days ago”, simply failed to understand. However, when given a cue, such as “What did you do at your grandmother’s this weekend?”, he could answer. There is a deep relation between our sense of time and our sense of who we are. Equally important – and also a factor in autism – is our sense of our own body.

Tito Mukhnopadhyay, a remarkably insightful autistic boy, described how he struggled with this: “When I was 4 or 5 years old... I hardly realised that I had a body except when I was hungry or when I realised that I was standing under the shower and my body got wet. I needed constant movement, which made me get the feeling of my body. The movement can be of a rotating type or just flapping of my hands. Every movement is proof that I exist. I exist because I can move.”

Just as Tito has found movement a way to generate an embodied sense of self, so too is movement an essential element in the creation of Anderson’s art, helping her participants to situate themselves and see themselves afresh: “At the studio, when we were all together, the winding repetitive action was similar to collective shamanic dances and people seemed to enjoy it. The bobbins into ceramic jars created rhythms and ‘music’. It was like a sort of ceremony, in which the copper colour and wire made people think about themselves and what was around them in a different way.”

AWARENESS OF MORE THAN WE SEE

Anderson’s copper windings of ordinary objects and her dances with her collaborators show her concern with the creation of coherent perceptions and memories out of apparently chaotic stimuli. She is illustrating how our perceptual worlds are structured from ever-changing stimuli, how they are structured by our pasts, and how they in turn structure our recollections. She is trying to capture the intertwined nature of perception, memory and awareness – namely, that when looking at people and objects we are aware of much more than what we see.

When facing an acquaintance, we know that we are looking at a three-dimensional person, even if we do not perceive their back at the moment. We know many things about them and their past, and this recollection shapes our perception. It is this awareness that Anderson’s copper windings express in their incorporation of the past into the present – the window frame transformed into a wire-wound frame. Her art expresses what consciousness and memory are about: an awareness of something that is not directly perceived.

Consciousness brings more to perception than exists in the present stimulus – it creates something that is not there – and in doing so it helps us make sense of our environment. And so does art. Anderson is exploring the very question that is at the heart of the modern neuroscience – the nature of consciousness – of being aware of something that is not ‘really’ there.