Science x Art

If you want to be in two places at once, then you had better visit the new immersive Carsten Höller exhibition, where your presence(s) will be part of the art, explains Michael Brooks.

How many art exhibitions come with a health warning? Artists have long sought to reflect what it means to be human, but visitors to 'Decision', Carsten Höller's current exhibition at the Hayward Gallery (until 6 September) are advised to steel themselves – or stay away if they think the artworks on show might be too challenging.

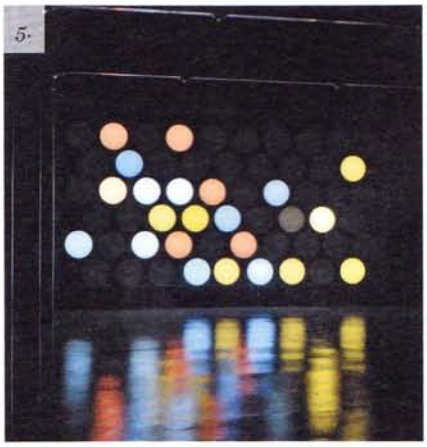
The challenge comes from Höller's determinedly confrontational combination of art and science. Formerly a research scientist, he creates works that often play tricks with perception and so depend upon the observer. His works are only complete, he says, when viewed and interacted with.

This idea offers an interesting point of contact with the work of the Austrian physicist Erwin Schrödinger (1887–1961), who understood that perception has an important role to play in the interpretation of science. The dominant school of thought, pioneered by Schrödinger, in quantum physics says we create reality with our observations. That's because subatomic particles such as electrons or the photons of light can exist in multiple states, in two or more places at once, or spinning both clockwise and anticlockwise. It is only the act of observing the particles that forces them to take up one definite characteristic or the other.

We don't yet understand how this extends into the world that we experience. This is why Schrödinger came up with his famous thought experiment, where quantum effects mean that a cat, unobserved inside a sealed box, can be both dead and alive.

Interestingly, modern neuroscience is also producing surprises about our observational acts. Our brain, it turns out, registers only a tiny portion of the world around us, and reconstructs the rest from its few slivers of perceived information.

We now know that when visitors look at Höller's work, they will, at any one moment, see detail in only a tiny part of their field of vision, something akin to a thumbnail held at arm's length. After taking this in, the eye shifts its focus to look at another tiny area. This is repeated three times every second;



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in order to avoid creating a jerky or disorientating experience, the brain takes in no visual information in between these moments. The result is that you are functionally blind for four hours of every day.

That is not the only reason each visit to 'Decision' will be unique. Visitors will be confronted by a series of choices about how to approach it; their decisions will create their path through the exhibits. What's more, Höller's work is often both immersive and disorientating – he has frequently talked about his installations as part laboratory, part playground – and visitors will no doubt have their senses confused in ways that depend on who they are. Hence the health warning.

The depth of the experience will be augmented by an unprecedented use of the Hayward's space. Because the gallery is about to undergo major renovations, closing for two years after the 'Decision' show finishes, the directors have allowed him to take liberties with the structure of the building. The exhibition is certainly one of a kind, bursting out from the physical confines of the gallery.

Schrödinger once said the task of the scientist is "not so much to see what no one has yet seen; but to think what nobody has yet thought, about that which everybody sees." With Höller demanding that his visitors undergo experiments on their perception from the moment they enter the exhibition space, that is exactly what each will be able to do, and, for a few months in London, everyone can be a scientist. ■