

IN 1919, 23-year-old artist André Breton, enamoured with the latest developments in science, decided it was time to leave the world of Dada behind. The Dada art movement, born amid the turmoil of the first world war, sought to expose the absurdities of society and existence. Breton wanted to continue challenging society's prevailing social and political values, but hoped to trade in Dada's "anything goes" message for a reconciliation of the rational and the irrational, which he believed would lead to truth. Thus surrealism was born.

Enthralled with Sigmund Freud, Breton wanted to express the Freudian unconscious in art. He encouraged the technique of "automatic drawing", in which the artist's hand, liberated from conscious control, moves freely across the canvas.

In the late 1920s, Breton read essays by Gaston Bachelard, a French philosopher. Bachelard knew his way around relativity and quantum mechanics, writing about the schizoid wave-particle duality: light and matter exist as waves and particles at the same time. Breton and the surrealists saw this struggle to reconcile opposites as a supreme example of Marxist dialectics, the notion that human history is shaped by conflicting forces and that only through their reconciliation can a new social order emerge.

In *Surrealism, Art and Modern Science*, Gavin Parkinson aims to "transform our understanding of surrealism" by examining sources from art, literature, physics, politics and philosophy. The book centres on the Viennese artist Wolfgang Paalen, who, according to Parkinson, attempted to capture the essence of the wave-particle duality as a symphony of vibrating lines culminating in dots. But does this really depict the duality? Quantum physics clearly influenced Paalen's art, but the results are disappointing.

Parkinson traces surrealism back to cubism and its founder, Pablo Picasso – a crucial step in

AN AFFAIR TO REMEMBER

Did physics influence the development of surrealist art? Even more than this book portrays, says Arthur I. Miller



WOLFGANG PAALLEN, FIGURE PANDYNAMIQUE (1940). FUNDACIÓ NGONGRANGY USIBEL PAALLEN, REPOBLICA

The epitome of quantum strangeness, Wolfgang Paalen's *Figure pandynamique*

uncovering surrealism's scientific roots. However, he tiptoes around the question of why, from 1905 to 1907, Picasso was simultaneously struggling with the same issue as Albert Einstein – the nature of space and time – though Picasso was unaware of Einstein's work. Parkinson brushes off the question by quoting Paalen: "Great thoughts in the same period often follow parallel ways without their authors being aware of it." In fact,

scholars have shown that this was no coincidence. Questions about space and time were central to the avant-garde ideas sweeping across Europe at the beginning of the 20th century. Both Einstein and Picasso encountered the work of French polymath Henri Poincaré, from whom they learned about four-dimensional geometry. Cubism was largely a scientific art movement, but Parkinson ignores the texts that prove it.

In the 1920s and 1930s nobody was bringing quantum theory to the masses, but relativity had

British astrophysicist Arthur Stanley Eddington. Parkinson offers exciting new revelations about Eddington's role in surrealism. The surrealists were swept away by Eddington's insightful and poetic explanations of complex scientific concepts, not to mention gnomic statements like: "Human personalities are not measurable by symbols any more than you can extract the square root of a sonnet." Even to surrealists, this was surreal.

Parkinson conjectures that Salvador Dali also read Eddington's books. Dali threw in his lot with the surrealists in 1929 and produced works that have become synonymous with it, such as "The Persistence of Memory". This painting captured brilliantly the core

"Space and time were central to avant-garde ideas"

of relativity: each drooping clock shows a different time, embodying the truth that time is relative to the observer.

Does Parkinson succeed in his mission to transform our understanding of surrealism? In part when providing new information, but he leaves much to be desired. This is an exciting topic, but many of Parkinson's sources are published ones, so there are few surprises. Still, the book shows that proponents of surrealism, such as Dali and Paalen, were conceptual artists with a concept, unlike so many "conceptual" artists today.

It couldn't last forever, though. "Surrealism's love affair with modern science was well and truly over" after the atomic bombs were dropped, writes Parkinson. Even so, its most famous member, Dali – clinging to his fascist beliefs – continued to extol the virtues of modern science. As for Breton, he threw in the towel. ●

Arthur I. Miller is emeritus professor at University College London, and the author of *Einstein, Picasso* (Basic Books, 2001).