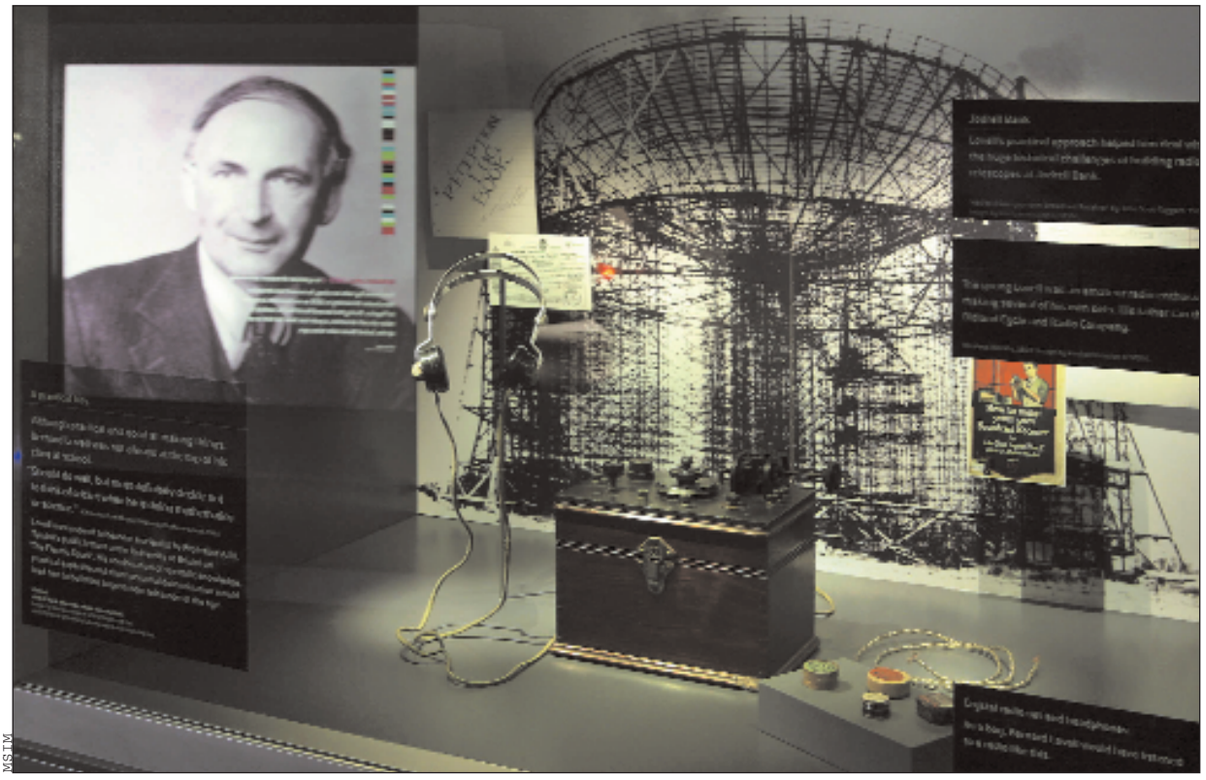


MSIM

Manchester experiment

MANCHESTER SCIENCE: DISCOVERIES THAT CHANGED THE WORLD

The story of four great Manchester scientists is told unevenly and without flair at the MSIM's new gallery, writes

THE MUSEUM OF SCIENCE AND INDUSTRY IN MANCHESTER'S (MSIM) new gallery deals with four famous scientists and the discoveries associated with them: John Dalton and atomic theory; James Joule and energy conservation; Ernest Rutherford and splitting the atom; and Bernard Lovell and radio astronomy.

The gallery is laid out in three sections: an introductory sequence, with a timeline and some objects; a central section with seating and folders covering a variety of topics; and four small side galleries that deal with the four scientists. These connected spaces use a mix of traditional techniques such as case displays, audiovisual theatres and interactives.

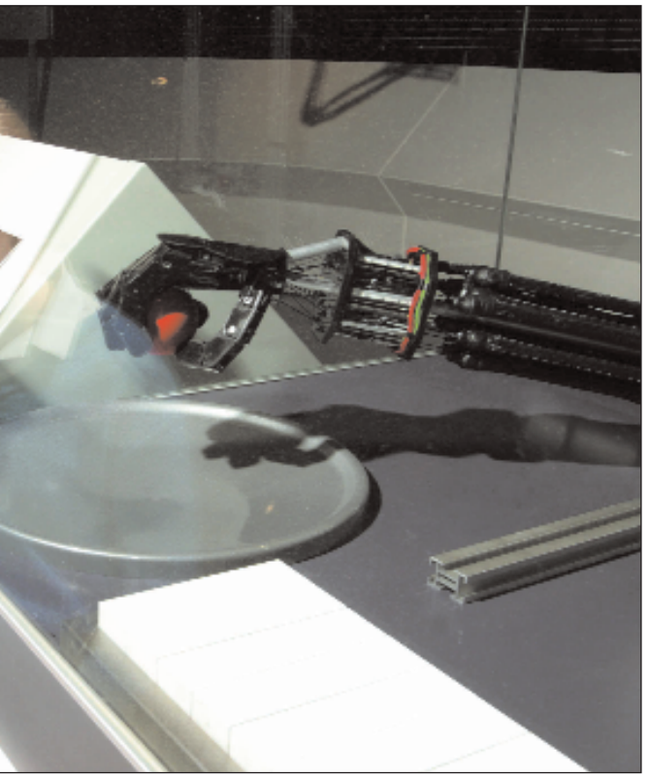
There is no interactive science theatre, no space for debate or engagement, no current news section and little sense of the live debate about science in society, a subject that is addressed at the Science Museum's Dana Centre in London. Manchester Science looks back to give a historical location to the scientist's work and place it in its Manchester context.

Turning the corner, after the introductory gallery, the four greats, Rutherford, Joule, Dalton and Lovell, all take a bow in delightful dioramas that use a mixture of projection methods and models. These are great, as they draw the visitor in, are visually pleasing and quite informative. We are being prepared for the in-depth exploration in four small side galleries. I suppose my question about each scientist was 'what single thing makes them stand out?' To put it simply, I wanted to find out what they found out. More than this, I wanted to relate their discoveries, and their successes and failures, to real world changes.

I'm afraid I failed with Dalton. Perhaps because of the failure of the audiovisual show I couldn't really get to grips with him. There is a display of Dalton-related objects but unfortunately the labels do not sit close enough to their objects and there was no key.

We learn a little about his life and are told: 'John Dalton [suggested] how these elements looked, weighed and interacted with each other' and '[he] said compounds were created by atoms combining in simple propositions. This helped scientists understand chemical reactions…' and 'Dalton's list of atomic weights… was the key to the mathematical understanding of chemistry.' In other words, Dalton's work was the foundation of modern chemistry. My thoughts were firstly how difficult this must have been to do in the 18th century and early 19th century and secondly that I needed a modern explanation of the structure of matter so that I could put his achievements in perspective.

On to Joule, who is about heat and energy conversation. Again he is a fundamental figure in the history of chemistry and physics. Dispelling the notion of calorific value and showing how work and heat were the same thing is a classic in the canon of scientific discovery. It's a pity perhaps, that the relationship we now take for granted and which is easily shown by a variety of



Clockwise from far left: the gallery's Bernard Lovell display; a robotic hand; a visitor finding out how molecules work; some of John Dalton's laboratory equipment and his spectacles

standard science centre interactives is weakly demonstrated. The very first label does not tell us about energy but states that: 'Joule's experiments depended on the measurement of very tiny changes in temperature.' Granted it's an object label, but we need some grounding, an intellectual or physical explanation of the relationship between heat and energy at the beginning.

The gallery lacks good fundamental explanation but also context in terms of the history of industry in Manchester; for example, the links between a better understanding of thermodynamics and steam engine design are not related to the collections on display elsewhere.

Rutherford next — he did something really amazing, he split the atom. He was concerned with delving into the heart of matter and a clever interactive allowing visitors to journey into the centre of the atom demonstrates this.

Here the gallery hits its stride and the fundamental importance of Rutherford's work does come across. The move from the 'plum pudding' model of the atom to the one we use today — a cloud of electrons orbiting a super dense nucleus — was a breathtaking step change. The more so when the primitive apparatus developed by Rutherford and his team is appreciated. That this also pre-figured the atomic bomb neatly illustrates the tension between the noble and the base in human nature.

Lastly it's Lovell. Most of us know about Lovell and the telescope at Jodrell Bank. We're told about the difficulty of creating the telescope, and its importance. Lovell's work on wartime radar fills in the background to radio astronomy and we learn about the cold war, which was a constant drumbeat in the postwar world. But the immensity of an astronomical project in which Lovell was a pioneer defeats the gallery. There were some very good elements in the graphics, such as the filling in of Lovell's permit under the Wireless Telegraphy Act, but the contrast between the infinitesimally small atom and the unimaginably large universe is only drawn by inference.

At the end of the gallery an interactive sculpture and series of screens are designed to look at current science and scientists. Unfortunately this was also out of order when I visited.

Manchester is critical to an understanding of the modern world. Soon, just over half the world's population will live in a Manchester invention — the industrial city. In the past 200 years it has changed not only the way we make things, how we trade and travel, but also how we think, learn and live. Manchester is that important, and it became that important because of a continual intertwining of science, technology, production and settlement. We all live in the shadow of the Manchester experiment — with the global impact of the carbon age it helped spawn.

The gallery doesn't really rise to this wider challenge — it provides background and support but not connected dialogue about science, past and present. It is about science that took place in Manchester not how science, technology and industry were linked to make Manchester. Dividing the gallery into sections doesn't help this.

To be fair, this is consistent with the rest of the museum, which is still heavily biased towards display and interpretation, not mediation and engagement. The MSIM does not feel very experimental in its approach, as if it has grown by colonising space and subject and not with a single intellectual vision. The new gallery continues this. Surely this is a missed opportunity? Showing how science, technology and settlement work togeth-

Project data

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