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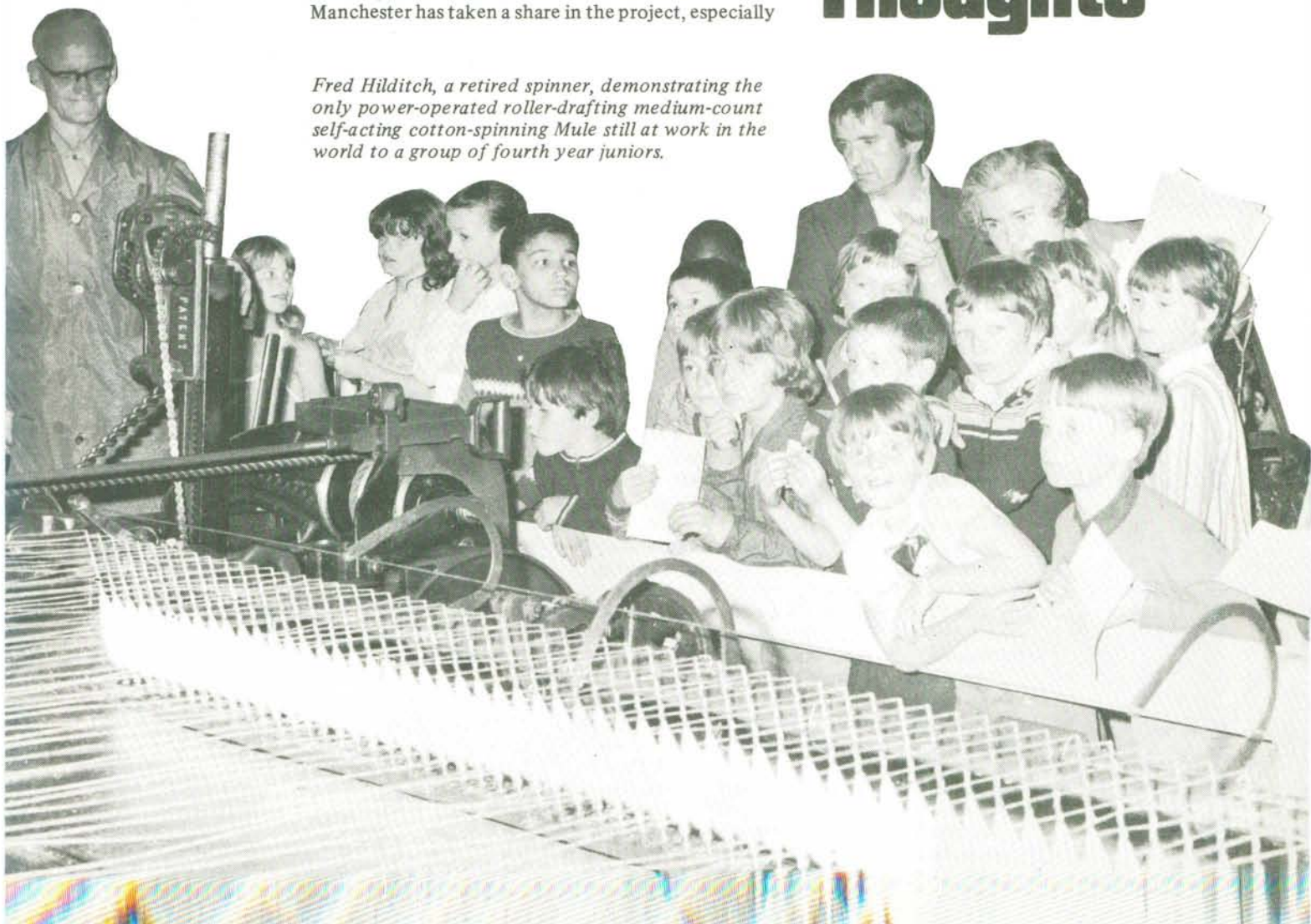
Industrial Museum, History and Education: Some Random Thoughts

The Museum profession is a small one, in which everybody seems to know everyone else. Owing to the relatively small number of staff at most museums, and the fact that many senior staff stay put for a good number of years, Museums do absorb some of the personality of their curators. Almost inevitably some of this is transmitted to the visitors: in most cases this is not at all a bad thing.

Museums education is a much smaller, though growing, profession. Education Services, having even fewer staff than their parent museums, reflect the personalities of the people involved even more. Again, diversity of approach to a subject is no bad thing. Thus I feel no compunction in putting forward my own views on museum education, although my colleagues may well dissociate themselves wholly from those views!

This Museum was founded nearly ten years ago by the City of Manchester, The University of Manchester and the University of Manchester Institute of Science and Technology (UMIST). Since that time the University has relinquished its interest, while from 1974 the County of Greater Manchester has taken a share in the project, especially

Fred Hilditch, a retired spinner, demonstrating the only power-operated roller-drafting medium-count self-acting cotton-spinning Mule still at work in the world to a group of fourth year juniors.



The collections were intended to cover the majority of industries typical of the North West, and the work of scientists who worked in the region. Insofar as temporary premises in Grosvenor Street would allow, this policy has been followed. Educational use of the Museum was always envisaged as being important, and the demand from schools and colleges did, in fact, soon make itself felt.

Nearly a year after the opening, the half-dozen or so of the Museum staff were joined by a teacher, appointed by the City of Manchester Education Department to develop an Education Service at the Museum, in parallel with services already existing at the City Art Gallery and the Manchester Museum. I was the teacher, and the next two years were among the most exacting (and rewarding) of my life, as I struggled to master the intricacies of all sorts of machines and techniques, in order to be able to demonstrate them convincingly. I then moved sideways to a new post, Deputy Director of the Museum; since that time I have been less actively engaged in the educational work of the Museum. However, I have closely observed the Education Service as it has continued to expand in size and scope, and assisted or collaborated with its staff on very many occasions, thus not entirely losing touch with things.

One aspect of teaching, and communication with the public, which I have always felt important is that of relevance. It is difficult to convince a child that it is worth learning about 'atoms' if 'atoms' do not appear to have any relevance to the child's everyday life. Thus you will find in our Museum, among a collection of analytical balances, ordinary shop scales. Similarly, the Box Brownie finds its place among the most esoteric cameras, and a pocket calculator (last year's model) among the slide-rules, comptometers and 'Brunsvigas'.

Some of our exhibits reflect scientific research as practised in Manchester many decades ago, for example Joule's apparatus. With the high rate of development in many scientific fields, it is difficult to show that these exhibits have any direct relevance to present-day life, despite their historical significance.

Other exhibits, on the other hand, reflect the nature of local industry until comparatively recent times, e.g. the Spinning Mule, and so do have a fairly direct relevance.

Still others produced some material which is still well-known today, although nowadays manufactured on more up-to-date machinery: paper, for example. Here, as with many of the scientific items, there is relevance to everyday life, but it is indirect.

Understanding how these exhibits work (or worked), and how they are (or were) related to each other is an integral part of the business of understanding the world around us, and understanding the forces, whether physical, social or otherwise, which have shaped it. In any case, I find the machines interesting, and I and my colleagues have a strong urge to pass on to others our interest and our knowledge of how they work. The enthusiasm usually seems to be infectious,

and children (of all ages) become fascinated by the intriguing aspects of operation of the machines that are not immediately obvious. They want to find out how the inventor or developer got over difficulties, and (if possible) at first hand, by trying things out themselves.

An important fact in this connection is that a large number of exhibits do actually work and can be demonstrated by Museum Education Service staff, Museum Curators or Technicians, by volunteers, or by the simple expedient of 'applying finger (or thumb) to button!' The volunteers are often people who have spent a lifetime in the industry concerned, and have an impressive collection of anecdotes: the correct stimulus unleashes the floodgates of reminiscence, which 'adds artistic verisimilitude to an otherwise bald and unconvincing narrative', i.e. our description of the 'beast' and how it works.

Coming from school science teaching, I was used to illustrating almost everything I said – and much that I didn't – with my own demonstrations or with experimental work undertaken by the pupils. To some extent this worked the other way round in practice, since discussion of the results of experiment, explaining and linking observations made earlier, led to looking for patterns, and to planning future experiments, which in turn produced new results, which

Much the same process could take place in the Museum, although with an incomparably vaster collection of demonstration and experimental apparatus. One big difference was, however, that in school chemistry a relatively small number of basic pieces of equipment could be assembled in many different ways for the purpose of different experiments. In the Museum, on the other hand, as in industry, machines tend to be highly specialised, so that a much larger range of machines, models and replicas needs to be accessible, in the galleries and the specialised 'teaching areas'.

Class teaching has been developed far beyond the cautious efforts of nine years ago, by my successors. It now needs three full-time teachers and one-and-a-bit ancillary staff to cope with the demand from schools and colleges. The majority are from Manchester, with a significant proportion from other parts of the North West, and some even from south of Watford!! Many new ideas for experimental work have been tried successfully, in all subjects covered. Most classes divide their time in the Museum between

- a short introduction to the visit, in a 'teaching area' off the galleries, out of the way of other visitors;
- observation, with maybe some participation, in the Museum galleries;
- and
- experimental work back in the 'teaching area'.

Of equal importance to the actual visit are the spadework beforehand and the follow-up work afterwards: in-service training courses can deal effectively with these. Spontaneous follow-up, at school or at home, shows how much visitors' interest is sparked off by the Museum and its contents. Occasionally some weird samples of materials made

*Specially-trained
Secondary school
pupils demonstrate
hand-papermaking to
pupils from other local
schools during the
annual Schools'
Working Week one
July. Freshly-made
sheets of paper hang
over the 'clothes line'
to dry.*



or processed do filter back to show we are not banging our heads against a brick wall!

People are often surprised to find examples of old hand-worked equipment, such as spinning wheels, in our Museum, as they are neither scientific nor industrial. The justification is that old hand-worked machines developed into new power-driven machines quite logically, and they form the beginning of the story of the Industrial Revolution. Also, early machines are less sophisticated, and the principles of operation are more easily discerned by the visitor: hence they are good visual aids. Incidentally, we have done our bit to keep a few old crafts alive, like hand papermaking and hand spinning. We are probably the only people in this country who regularly spin cotton by hand, using a variety of spinning-wheels — and a spindle-and-whorl ...

To sum up, I see my own philosophy of museum education (for schools) as:

- (a) I've got something relevant to show you;
- (b) I find it interesting to see how it works, and so will you;
- (c) I've got something even more interesting for you to do;
- (d) You may get some ideas for other things you can do at home/school afterwards.

With colleges, I feel you have to treat the Museum more as a resource bank, full of bright ideas people have had in the past. These ideas are just waiting to be used again, and I would define one kind of genius as the ability to re-use successfully an idea from a *completely* different context. Whatever the currently-fashionable educational theories may be, I believe that museums in general, and our kind of museum in particular, will always be found relevant to teaching, in both schools and colleges. That, I suggest, is a good proportion of the justification for the existence of museums anyway.