A brief overview of the University of Aberdeen Historical Scientific Instrument Collection

The University of Aberdeen Historical Scientific Instrument Collection is a rare portfolio collection. In time it spans almost three centuries of science. In breadth of coverage it is biased towards the classic discipline of Natural Philosophy, which translates in modern terms to the whole area of physical science. Physical science is about knowledge and its application. The knowledge gained should be universal; the applications are usually international though specific examples may be more local. The collection reflects the work of North East academics in a very wide range of science-related disciplines that have shaped the University’s character over the centuries, and continue to do so. Although the collection has been filtered by its University relevance, the teaching and research represented have been carried out in a national and international environment. The collection’s strengths include its regional relevance and its international context. The collection illustrates how scientific ideas are tested, concepts modelled, physical quantities measured and how the technology that underpins scientific enquiry has evolved over the centuries.

Physical instruments and concepts have penetrated every branch of modern science and it is no disadvantage that the core of the collection is formed by selected items from the former Department of Natural Philosophy (Physics, post 1986). The collection would have been poorer had this not been so. The collection also includes physical apparatus from the disciplines of Chemistry, Geology, Natural History, Computing, Engineering, Medical Sciences, Psychology, Geography, Mathematics, and occasional items from other subject areas.

Breadth is a real strength of the collection and it is hard to think of a modern topical subject such as communication, alternative energy generation, climate change, medical imaging, space exploration or many others, in addition to historical topics, that could not be illustrated by the collection. That said, the collection has already been highly selective in its acquisitions, with continuity of existing themes being particularly important. 18th and 19th century material is no longer likely to come to light in the University. Age, interest and association have given this material an undisputed historical value. 20th century developments have underpinned most of modern science but not even national collections can encompass the full scope of 20th century science. It is here that our collecting policy has had to be selective in spite of the emphasis on breadth. Themes within the collection have been dictated by the research and teaching interests at Aberdeen. Major areas of 20th century science represented include X-rays in science and medicine, metrology (including the unique instruments of RV Jones), meteorology and upper atmosphere science, astronomy, optics, computation, crystal growing, materials science, surveying, medical physics and the evolution of electrical and electronic instrumentation. Less well represented but important topics include measurement of radiation and radioactivity, seismology, uses of the electromagnetic spectrum and demonstrations in science teaching. It is this list, and the artefacts within it, that makes the 20th century component of Aberdeen’s scientific instrument collection unique – the University’s wide but distinctive sweep across physical science in its international setting.

Individuals and national museums establish scientific instrument collections but the University collections are additionally valuable in that they are set in the context of the place where the instruments have been used by the people who used them. They add value to the other heritage artefacts within the university such as the manuscript collection, the library and the scientific papers published by staff. Some apparatus that has been developed through local research is unique. Many pieces are rare survivals. They are academic and cultural source material the value of which for these purposes will only increase with time.

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