

## A Permanent Exhibition for the Rutherford Laboratory

### 1. Introduction

A covered walkway is being built the primary purpose of which is to cross the courtyard of Building R.2, joining the main entrance to the Control Room entrance. It has been proposed that this should also be the site of a permanent exhibition for the Laboratory. This note is an attempt to set down the terms of reference of such a project and to present some ideas on the form and content of the exhibition. These ideas are the result of discussion and comment by many people and inspection of several displays at A.E.R.E.

### 2. Terms of Reference Adopted

1. The exhibition is to be housed in the R.2 walkway, the dimensions of which are shown in Fig. 1.
2. The exhibition is to represent the activities of the Laboratory which centre on Nimrod, not just those of Nimrod Division.
3. It should be suitable for the whole spectrum of visitors to the Laboratory, not just those with technical training.
4. The walkway must remain usable as such when the exhibition is in use, i.e. a pathway should be kept clear at all times.
5. The initial sum required to start the exhibition will be £1,500 (see appendix).
6. The cost of keeping the exhibition up to date will be about £500 p.a.

### 3. The Form of the Exhibition

#### 3.1 General

The exhibition should obviously be highly informative, the general effect being to give an impression of the Laboratory as a lively, very active place where interesting and exciting scientific and technical work is going on. We claim to be in the forefront of physics and we should be able to demonstrate it. By the time a visitor has walked through the corridor, he should have a good idea of what the work of the Laboratory is all about.

Whatever the actual content of the exhibition, the following considerations are important :-

- (a) The exhibits should be such that the guide (or the visitor himself perhaps) can select the information which is most relevant and suppress that which is either too complex or too simple.

The difficulty here is clearly the very wide range of visitors we get. What we show a sixth former should be different to what we show a professional physicist. We should avoid overwhelming visitors with a vast barrage of information.

- (b) The exhibits should be regularly reviewed and brought up to date. There should always be something new, interesting and informative to see. We must avoid the notion of a museum.

(c) There is not all that much space for models, and actual pieces of equipment. These will have to be chosen with care - they are also expensive.

(d) Diagrams and photographs should be big and bright enough for all members of a party to see them.

### 3.2 A suggested layout

The space available comprises six panels of wall space on the north side and seven bays on the south side (labelled 1 to 7 on Fig. 1 for reference). The following is a tentative layout to show the possibilities of the exhibition. It is impossible at present to state exactly what each exhibit will be like because we are only just starting to collect existing material which is scattered about the Laboratory.

South side Bay No. 1 This is the one which gives the visitor his first impressions and thus is particularly important. It is suggested that it should contain an account of elementary particle physics and the reasons for its importance. This is easier said than done, but perhaps the best approach is the historical one, i.e. a simple account of the development of the subject starting from say the discovery of the electron, covering the work of Rutherford, the work with cosmic rays, the more recent work with accelerator beams, etc. We should mention that pioneering work has been done in Great Britain from the outset and point out the severe limitations of working with natural radiations.

This part of the exhibition is aimed primarily at the layman.

Bay No. 2 and 3 This should be devoted to Nimrod itself. Our problem here is the vast amount of information which should be on tap because the machine itself will not be accessible most of the time. The best solution seems to be to make extensive use of back projected slides. Fortunately the building lends itself rather easily to this (as shown in Fig. 1) and suitable equipment is not too expensive. We have seen a demonstration of a projector with an automatic slide change and a suitable screen material which could be purchased for ~£80. The use of this system gives great flexibility because different batches of slides can be assembled to suit different visitors - changing from one magazine to another should only take a few minutes. Bay No. 2 therefore, should contain the projector and a quite simple diagram of Nimrod as an aid to guides - perhaps we should be able to illuminate various parts of the machine as the guide talks about it. In Bay 3 we should lay emphasis more on the engineering aspects of the machine and beam lines.

Some of the diagrams at present in the foyer of R.1 could be used to better advantage in this way.

Bay 4, 5 and 6 These three could be devoted to the techniques of high energy physics. A second slide projector should be provided for this group, say in Bay 4, which could deal with bubble chambers and track analysis. Bay 5 could be devoted to counters and spark chambers, while Bay 6 deals with targets including polarised targets. The appropriate data handling techniques could be pointed out in these bays. Somewhere here an actual experiment should be explained and the results shown.

Bay 7 This should be reserved for some of the peripheral activities which are not so well known, e.g. the superconductivity work or the work on resins and radiation damage.

North side Some suggested themes for displays on these wall panels are as follows :-

- (1) A pictorial history of the building of Nimrod.
- (2) Some pictures and brief information about other high energy physics laboratories.
- (3) Some statistics about the Laboratory such as the number of university teams making use of our facilities, pointing out the successful co-operation with universities, the number of experiments completed, some details of the international co-operation which exists etc. The fact that high energy physics is a subject able to cross national boundaries with ease and with goodwill is well worth pointing out.
- (4) There should be a light, even humorous touch somewhere in the exhibition. One suggestion is to tell the story of an HEP experiment from the moment a physicist gets an idea to the final paper which reports the results. This could be done in cartoon form (example available).

#### 4. People

At present Frank Telling, Frank Harden and myself are collecting up existing material. We will arrange for production of new art work by Mr. G.P. Gibbons of A.E.R.E., who has done a lot of work for the Laboratory in the past. Three people have agreed to join us to make up an informal panel to put in ideas and comment on the proposals. These people are - Phil Duke (HEP), Ron Newport (AF) and Ted Higgins (CE).

#### 5. Conclusions

It is felt that the concept of an exhibition in this covered area is a good one both from the public relation viewpoint of our visitors and our own staff. The aim will be to present information in an attractive modern style the contents of the exhibition being regularly reviewed.

The initial outlay is estimated at £1,500 with an annual upkeep of £500. Full use will be made of existing material.

19 October, 1967.

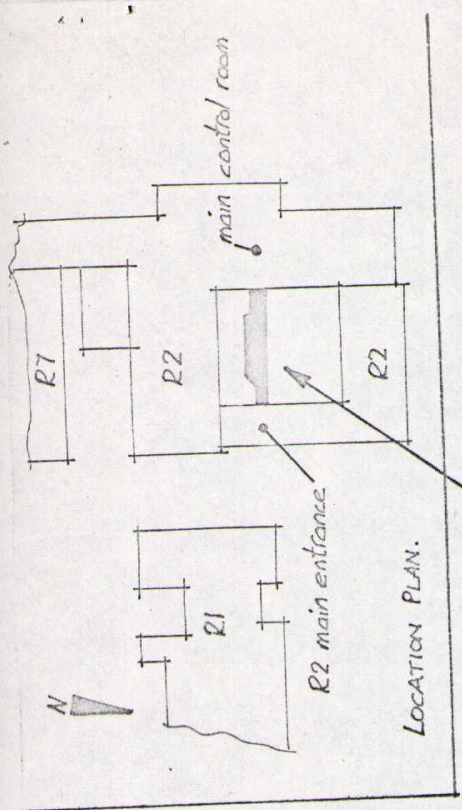
H. Wroe

AppendixCosts of exhibition material and presentation

The figure of £1,500 is the minimum sum required to start off a worthwhile exhibit with a high standard of presentation. Some idea of the cost of new material can be obtained from the following facts :-

- (a) An isometric, cut away diagram, 2' x 3', in colour, costs about £200.
- (b) Given a good photograph, it costs £20 to have it properly presented with attractive captions and background.
- (c) The display board on the wall of the foyer in R.1 costs about £1,000.

Clearly £1,500 will cover the cost of presenting the material we already have, with only a modest amount of new art work.

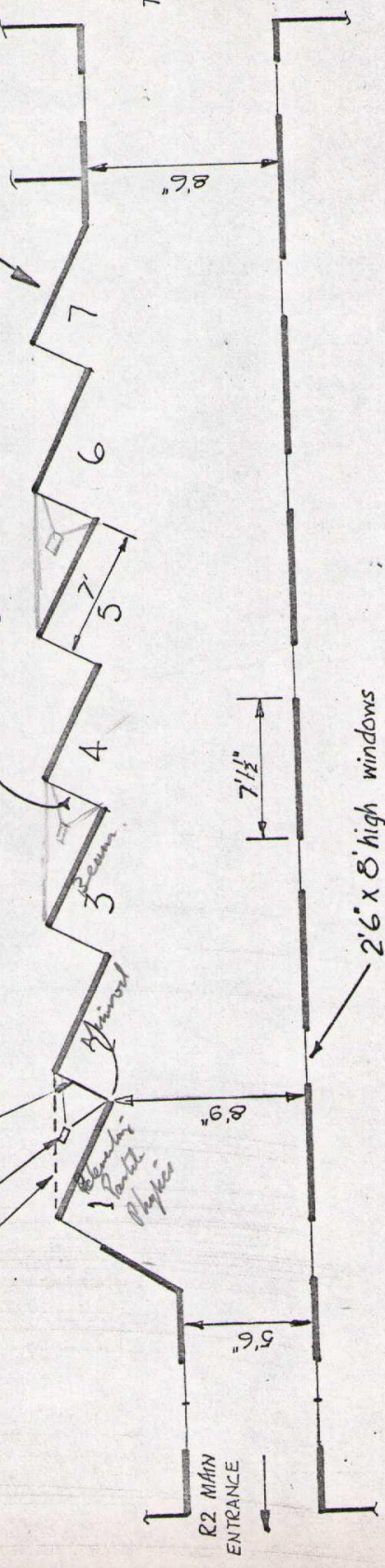


light cladding on outside of this bay

projector

window removed & light door substituted containing screen

2'6" x 8' high windows



Plan of proposed covered walkway showing space available for permanent Lab. exhibition

Scale 1/8" = 1 ft.

A.W. 18-9-67.