

## Appendix 2d: Systematic Observations of Visitor Behaviour Nigel Marshall

### 1. Setting

The gallery has been observed on three occasions and a variety of systematic Observation Schedules have been applied to the exhibits. In addition to this battery of observations, two similar observations have been carried out in other galleries to provide a comparison. Two false observations were carried out in order to gauge the impact of the observer on the visitor.

At the outset, it should be stated that all observations in the gallery were carried out within the summer period. There is no evidence as to how these results relate to other periods of the year when clearly there may be significant differences within the visitor population.

Timing for systematic observations was facilitated by the use of a personal tape recorder with ear piece. Prior to the visit a variety of tapes had been prepared:

1. providing musical bursts of one minute duration for use when observing one minute periods;
2. providing a signal every 15 seconds, and
3. providing a 5 minute duration. This can be constant music or simply a start and finish signal.

### 2. Theoretical Aspects

There are two paradigms which may be utilised in this situation. Firstly, a quantitative paradigm in which structured, empirical and largely numeric observations are carried out and secondly, a qualitative paradigm which requires broader, less structured and largely verbal observations.

The quantitative paradigm has the strength of providing numeric data which is easily manipulated and presented. It can be efficient, quick and relatively easy to administer. The negative aspects are that it is essentially a convergent and narrow exercise and will only measure that which it is designed to measure. Significant details affecting the research environment or population may therefore be missed out. It is also very 'clinical' with little human element included.

In quantitative methods the researcher attempts to isolate and define variables and variable categories and quantify them accurately. These categories are linked in a hypothesis, often before the data is collected, and then tested against the collected data. In research methods which employ systematic observation, the observer usually refrains from participating in the environment under observation. The observer records the quantity of activities which take place within a set of pre-determined categories. The rules for assigning variable behaviours to categories are worked out prior to the period of observation and the manner in which the quantity of these occurring variables is recorded is also pre-determined.

Qualitative researchers look for trends, styles and patterns which can be gradually developed and the underlying meanings or causes explored from a variety of

perspectives and viewpoints. As trends and patterns emerge, further defined areas are highlighted and explored. Qualitative observers argue that quantitative observers only record and observe those aspects they have already decided are significant.

Qualitative researchers are also free of pre-defined measurement tools. The best way to record the information collected can be decided at an appropriate time, changed during the process or fine tuned as the research progresses. Therefore, what the researcher records is limited neither by the pre-defined areas for observation nor by the manner in which data is recorded.

Qualitative researchers attempt to gain an accurate perception of the environment under observation by seeking information from many sources and viewpoints. Their starting point is in observing what is there rather than quantifying what the researcher has selected to be there. It is possible to argue that in concentrating on a small category of observable behaviours, much that affects the actions within the research environment is missed.

The strength of the qualitative paradigm is that a broader perspective is gathered and therefore many more features affecting the population or environment are included. The negative aspects are that the data often involves copious transcripts, can be extremely varied and time demanding and usually requires a large number of successive experiments to validate the findings.

There is the possibility of combining these two approaches. In the main, there are three combinations which can be used here. Firstly, the quantitative data can be treated as 'the facts' and this can be augmented with qualitative data; secondly, the qualitative data can be treated as 'the facts' and then augmented with quantitative data and third, the two paradigms may be treated as absolute equal and married together as appropriate.

Given the circumstances and the time limitations, it was decided that the first method would be the more productive and suited to the needs of the gallery.

### Methodology

#### Systematic observations: the theory

In research methods which employ systematic observation, the observer usually refrains from participating in the environment under observation. The observer records the number of activities which take place within a set of pre-determined categories. The rules for assigning variable behaviours to categories are worked out prior to the period of observation and the manner in which the quantity of these occurring variables is recorded is also pre-determined. Often, a good deal of time and effort is put into the researcher's pre-observation training, devices for preventing observer 'drift' are sometimes incorporated and differences in interpretation of categorisation are further discussed in order to establish good inter-observer validity.

Within a systematic methodology, a variety of approaches may be taken to quantify what has taken place in any environment during a set period of time. Essentially, the format chosen should be very much defined by the nature of the research question as the chosen method will influence the resulting data and possibly also the context in which it is presented. There are a variety of ways in which the data may be quantified.

1. Record each event each time that behaviour is observed. Here, the quantity of the chosen behaviours are recorded, but not set against time. Therefore questions as to whether or not there is a likelihood of a certain behaviour happening at a set time, or whether certain behaviours have a tendency to occur at any one time, may not be answered.

2. Record categories of behaviour which are taking place at pre-determined intervals e.g. every 5 seconds. With this method, a snapshot sample is given of behaviours as they happen. Some idea as to whether the behaviour is a common pattern throughout the session or if certain events cluster around certain periods can be decided.

3. Within a longer period of time, such as 5 minutes, record the category of behaviour which, in the judgement of the observer, predominates. This method results in less fatigue for the observer and more categories may possibly be observable. A variation could involve recording of pre-categorised behaviours taking place within that interval. In this way, it is possible to establish how many of certain behaviours occur within set periods.

4. Different aspects of behaviour can be linked together and can be put into clusters. This system allows a description of smaller sub-groups to be put forward and contrasted against other sub-groups.

The common element between the methods, although each can be adjusted to present the most appropriate picture, is that they present pre-determined categories which record and quantify behaviours and in some instances set them alongside some form of chronological framework. The addition of temporal elements can raise relevant questions. The type and nature of the data recorded varies according to whether the research question asks about the frequency with which an event happens, the place in time that the observed event occurs, or the total or individual duration of an event. All these possibilities highlight the need for absolute precision in the original research question. A key feature of systematic observation is that it enables particular events to be quantified extensively in terms of duration, frequency and periods of the day. Furthermore, these events can be placed in sequential relationship to each other. A possible weakness is that setting observed behaviours against a time element brings a corresponding increase in the demands upon the researcher for recording those elements in time. One answer is to increase the number of observers, but there is an obvious limit to this. The balance required here can only be gained through the precision of the initial research question.

A battery of systematic observations were carried out over a period of three days.

a) Every 15 seconds, a tally was made of the cases which had visitors attending to them. A tape was used which created a 'bleep' every 15 seconds for a period of 5 minutes. The cases were numbered and a record kept of the cases being 'visited' at that precise moment. This gives a snap-shot view of the gallery as it is being used by visitors.

This is a skill which needs to be practised several times before results are used. Another option is to use more than one observer for triangulation of results. If this is done, it is necessary to synchronise time slots. This method gave a snap-shot view of the gallery, but did not distinguish between a casual glance at an exhibit or a long meaningful observation.

Findings: The observation suggested that the gallery exhibits were in frequent use throughout the day. The observations by this method were tried out in four different time slots during the day and the method proved to have a high generalisability.

One interesting fact suggested by the data was that the gallery seemed to enjoy the same high level of attention almost irrespective of the total visitors present at any one time. That is, the number of visits to cases did not seem to be related to the total number in the gallery. A larger number present did not necessarily mean more activity with the exhibits. Likewise the total number present in the gallery needed to fall quite low before an effect on the visits to exhibits was noted. This may suggest that when the gallery presents a busy environment, more people pass through. Some of those being tempted to stay longer when a calmer and quieter environment is presented by fewer visitors in the gallery.

b) A second type of observation was carried out over periods of one minute. Each time an exhibit was attended by a visitor during that minute, the visit was recorded. Once an exhibit had been visited, further visits were not recorded. This is similar to the first method except that it provides slightly different data and may validate the first. That is, a case not being visited on the 15 second 'bleep' may suggest in data form that it was never visited, whereas in reality, it may be that the 'bleep' was out of synch with any visitor pattern. This second method records whether an exhibit is visited at any point during the period under observation. It does not record the number of visitors to a case but only if they are visited. Thus a case receiving 20 visitors and a case receiving 1 visitor, 'score' the same.

Findings: This study showed that most of the cases were actually visited at some point during each minute and highlighted those which were not.

c) The behaviour at a single case was observed. This involves the use of two systems. Firstly, 5 cases were selected at random. Given more time, each case in the gallery could be studied in this manner. The one minute

tape was used and each of the five cases was observed for one minute. The total number of visitors attending the case was noted. After a minute, the second case was monitored and so on. Secondly, using a stop watch, the total time within the minute that a case was 'being used' was monitored and totalled up.

Note: if more than one observer is using this method, prior agreement must be made upon what exactly constitutes a 'visit', that is, when does a glance become a look. It is suggested that if several observers are used, a number of trial observations are carried out first.

Findings : The data suggested that some cases were more attractive to males than females. This is one finding which could be further investigated. The above method could be more finely tuned in order to establish more detailed knowledge of each exhibit. For example, the period of observation could be extended to five minutes per exhibit and the total time could be discovered for interest shown by women and then by men. Age categories (very broad ones) could be included.

It was noted that certain exhibits seemed to be either age or gender led. That is, where either two or more persons were together, it was often an older lady who moved the group to the cash register and often a male who led the group to the minting machine. The machinery seemed to be more popular with males, the coloured bank notes seemed to be more popular with females.

The above method can be changed and built upon to provide both a numerical account of the visits to each case and also a more quantitative element through the experience of the observer in carrying out the task.

d) An observation of four further cases was then carried out. They were monitored for a period of 15 minutes. Every visit was noted and the amount of time each visitor spent at the exhibit was recorded.

Findings: The findings from this suggested that all the cases in this study had their interested visitors. One group of cases (1, 2, 7) had proved unpopular with the majority of visitors. They had frequently been the cases not visited in the 15 second and 1 minute slots, and yet when observed through this method, it was noted that they often received the most 'quality' visits. Several instances were recorded of visitors to these cases spending well over 5 minutes at each case.

#### General

All the above were carried out at several different times during the day. The results seemed to suggest good generalisability. They can all be fine-tuned to create more specific pictures of visitor behaviour at each exhibit and answer more detailed questions which will become apparent as the cases are observed.

The general findings suggested that the most popular exhibits are those with less writing and brightly coloured exhibits. These exhibits receive more visitors for shorter periods, whilst the less 'popular' cases received fewer

visitors in general, but had the longest time spent on them by individuals.

Thus, combining all the results from the above, the gallery seems to present something for everyone in that it had exhibits which catered for those wishing to move through and see highlights, but also more informative exhibits for those with a real and deeper interest.

#### 2. Tracking

Within the first battery of observations, attention was paid to the effect of the observer on the visitor population. In 5 out of 6 instances, there was a considerable observer effect on the visitor. The tracking of the visitor through the gallery was done in two ways.

1. Visitors were selected in a random way (every 5th person or couple). Their progress through the gallery was plotted and the time they spent by each exhibit was timed. The total time spent in the gallery was also timed. The observer was female and by careful selection of vantage point was as inconspicuous as possible.

2. As a contrast, in the second battery, the visitor was selected in the same random manner. Upon entering the gallery, the visitor was informed that their visit through would be tracked and their permission asked for. They were asked to behave normally.

The results suggested that tracking has a significant impact on the observer in two ways. Firstly, those who were aware of the observer always spent much longer in the gallery. Secondly, it should be noted that there must be caution when attempting to become as inconspicuous as possible. On one occasion, when the tracker was male and tracking a female from an almost fixed vantage point, a high level of stress resulted for the person being tracked. It is not 'what the observer is doing' which creates a distraction to the observed, it is the fact that they are not behaving in the same way that others are in the gallery.

#### Findings

Those who were aware that observation was taking place in the gallery spent significantly longer in the gallery than those who did not. On reflection, very little significant information was gained from the use of this method and the observer effect was found to be extremely high. One possible way to explore this more fully would be to install some kind of video monitoring equipment, but this only gives a narrow viewpoint and is expensive.

On the whole, tracking did not seem to be a high yield activity for the environment under observation. It may 'flesh' out some of the more systematic elements but was not found to be very accurate. A further thought would be to abandon the random sample and to track certain categories of visitor. For example, in one session tracking could be limited to certain broad categories of male then female. It would be interesting to see how, for example, the visit of a young male differed from that of an older female, or a father with child contrasted against a mother with child.