



# AN INVESTIGATION OF EXHIBITION DESIGN AS A TOOL FOR COMMUNICATION AND VISITOR ENGAGEMENT

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# ABSTRACT

## An Overview of the Discussion of Exhibition Design as a tool for Communication and Visitor Engagement

The central focus of this paper is to investigate how exhibition design is being, and can be, used as a tool for the communication of ideas and issues, and how visitors engage with these spaces, resulting in the suggestion of a potential new technique for the identification of user demographic behaviours in the design process.

Exploring the work of those such as Ermina Perdretti (2004 & 2022), this author goes on to further investigate the manners in which visitors interact with a space through the completion of three observational studies of existing exhibition spaces.

When observing these three research exhibits, it was noted that visitors fell into two categories; those who reacted to exhibition components rapidly, in an open, vocal and communal manner, and those who interpreted their experience and the elements before them quietly and internally over a longer period of time. This author titles these two groups as external narrative interpreters and internal narrative interpreters, respectively.

External narrative interpreters were drawn to hands-on interactive components that required physical activity accompanied by direct information communication, these were often children or adults with a curiosity about the subject at hand.

Internal narrative interpreters were identified in spaces that had little graphic communication of a subject where the visitor was required to observe an exhibition component and come to their own conclusions on its meaning and content. These

appeared to be older visitors or those with an existing interest in the subject exhibited. It is this author's opinion that identification of a proposed exhibit's desired demographic, and whether they fall into the groups of internal or external narrative interpreters, would create a more efficient process of exhibition space design. For example, if a designer knows their target demographic will be children, they can identify children as typically external narrative interpreters and so incorporate components such as interactive materials that will facilitate and encourage this style of interaction.

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# 01 INTRODUCTION

An Introduction to  
the Discussion of  
Exhibition Design  
as a tool for  
Communication and  
Visitor Engagement

At its core, the aim of this paper is to explore the use of exhibition design as a tool for communication and promoting visitor engagement. Over the course of this piece, this author investigates the use of exhibition design as a tool for communicating socio-scientific issues, particularly environmental issues and how these styles of exhibitions are designed and received. This discussion focuses on how exhibitions are designed to pique visitor interest and engagement, this paper studies existing exhibition spaces of varying design styles and content in order to make suggestions on design practices that accommodate visitor interests and behaviours.

This paper is divided into three main sections; the first is a review of the existing literature surrounding exhibition design as a practice and its use as a tool of communication, the second is a primary observational research study, the final section shall take the form of a discussion regarding the results of the aforementioned research study.

The literature review of this paper investigates the historical foundations of exhibition design as a practice, before moving on to focus on the principles of contemporary exhibition design practice. The review concludes with an assessment of how exhibition design is being, and has been, used as a tool for communicating socio-scientific issues.

The following observational research study takes the form of a three-part study assessing

the design and use of three separate exhibition spaces, focusing specifically on how visitors interact with the spaces.

Finally, this paper concludes with a discussion of the results and issues raised from the aforementioned observational research study, and makes suggestions of design practice for exhibition spaces and areas for potential further research.

# 01 GLOSSARY

A Summary of  
Recurring Terms Used  
within this Paper

## **Audio-Visual Interactive**

A form of interactive exhibition component that incorporates paired audio and visual (usually video content). For example, a video with accompanying sound.

## **Creative Communication**

Types of communication that lie out with the written word, such as lighting, colour, structure and illustration.

## **External Narrative Interpretation**

The interaction of person with a space in an externalised manner, fuelled by heavy use of graphic components and interactive activities. The demographic of people attracted to these spaces are often children and those with a burgeoning curiosity in the exhibition subject.

## **Internal Narrative Interpretation**

The interaction of person with a space in an internalised manner, fuelled by limited informational graphics and interactives. The demographic of people attracted to these spaces are often of retirement age or those with an existing interest in the exhibition subject.

## **Narrative**

The story of a space and its content, often associated with navigation through a space, narrative refers to the content and context of an exhibition.

## **Socio-Scientific**

Scientific content or issues that have an impact on society and social contexts. For example, climate change is a socio-scientific issue as it has a direct impact on public life and behaviours.

## **Visitor Participation**

An overarching descriptor of how a visitor uses a space across a variety of contexts, such as presence, engagement, and reaction.

# 02 LITERATURE REVIEW

## Exploring Exhibition Design as a Tool for Communicating Socio-Scientific Issues

### Introduction to Existing Literature

In this literature review, this author seeks to gather information surrounding the use of exhibition design as a tool for communicating socio-scientific issues, particularly those of environmentally-based subject matter. Socio-scientific issues, as defined by Yun, et al.(2022), refer to scientific and technological issues that have a real and present effect on society, such as climate change, genetically modified food and energy conservation. In order to assess this topic, this review investigates the historical origins and uses of exhibition design, its narratives, methods, and general design practice. This review looks at determining the core design principles used in the creation of issues-based exhibitions and installations, focusing on narrative, user participation, and creative communication. This literature review then focuses on how these principles and other relevant factors are utilised in the creation of exhibitions and installations centred around sustainability. Through the course of this review, this author seeks to cover a selection of areas that, together, create an overarching perspective of the use of exhibition design as a communication tool for socio-scientific issues.

### The Historical Evolution of Exhibition

The first recorded events that can be described as exhibits originated in France just before the start of the 19th century and were put together with the primary goal of selling those goods and wares on display (Greenhalgh, 1988). The British

Great Exhibition of 1851 is thought to be the starting point for exhibitions as we know them today, propelled by the prosperity of the Industrial Revolution and increasing strides in technological advancement (Lake-Hammond and Waite, 2010, Pg. 28). Due to this, these exhibits were primarily industry-based, showing off mechanical and technological prowess. It was the French who made the connection that the same format could be used for fine arts (Greenhalgh, 1988, Pgs. 13-14). This artistic influence is seen in the creation of structures to house these large-scale exhibits, such as the Palais Des Machines in 1889 (Durant, 1994) and the Crystal Palace in 1851 (McKlean, 1994).

The Crystal Palace, (Figure 1), designed by Joseph Paxton and Charles Fox, was created to house the Great Exhibition of 1851 in London (McKlean, 1994, Pgs. 4-5). This structure was conceived as a space to show off the best that British and international industry, technology, art, botany and culture had to offer. Following the unveiling of the Great Exhibition, Queen Victoria wrote, "the glimpse of the transept through the iron gates, the waving palms, flowers, statues, myriads of people filling the galleries and seats around, gave us a sensation which I can never forget..." (Pg. 27).

This quote illustrates the role of emotive design in the resulting impact of exhibition spaces. It was this tool of emotive design that was adopted by the National Socialists of Germany during the 30s and 40s to spread and promote political ideologies within the general population (Tymkiw, 2018). Tymkiw gives the example of an exhibit designed by Egon Eiermann titled 'Gebt Mir

Vier Jahre Ziet (Give Me Four Years) (Figure. 2) which promoted the increase in industrial, economic and social prosperity since Adolf Hitler's rise to power as German Chancellor four years prior. While Eiermann's exhibit was not strictly groundbreaking in terms of wider design principles, his use of method and material helped emphasise the underlying messages of the design. Large photo-murals and industrial machinery were centrally positioned to create glowing adverts for the printing and industrial industries in Germany. One of Eiermann's goals through his increased use of context and sensory stimulation created a desire to be involved in the exhibit. This made his designs an excellent tool for political messaging and propaganda, with similar techniques being employed in the Soviet Union by the likes of Lissitzky to further political and social ideology. This book refers to the participation of viewers as "engaged spectatorship" (Tymkiw, 2018), viewers are not physically taking part in activities, but through powerful imagery, curatorship and language application are being mentally engaged.

In a brief analysis of the historical origins and uses of exhibitions, it becomes clear that exhibitions were initially used to display industrial prowess on a national and international stage, developing into a form of entertainment for the lower classes. In these early years, the role of emotive reaction was discovered and consequently misused, leading to the format being used as a platform for political and social agendas (Tymkiw, 2018).

## Unravelling the Design Principles of Exhibition Design

Various authors have developed their own set of design principles to guide the design process of issues-based exhibitions. An article by Skydsgaard, et al. (2016, Pgs. 51-52) names four; curiosity, challenge, narratives, and participation. Lake-Hammond and Waite (2010), however, identify three core principles; concept, contents, and narrative. Schwartz (2015) discusses the principles of exhibition design, specifically museum exhibitions, in terms of respect; respect for the objects, the building and the visitor (Pgs. 74-79). Respect for the objects encourages creative sonographic display solutions to create a strong narrative for the object and its surroundings (Pgs. 74-77). Respect for the building encourages engagement with the existing space (Pgs. 77-79). Respect for the visitor discusses the narrative of a space and ensures that the story of the exhibit is respectful and tailored to the expected visitors (Pg. 79).

These principles raised by Skydsgaard, et al. (2016), Hammond and Waite (2010), and Schwartz (2015) all contain similar themes for exhibition design strategy, namely narrative, visitor participation and engagement, and creative communication.

### The Role of Narrative in Exhibition Design

In both articles by (Skydsgaard, et al., 2016, 51-52) and (Hammond and Waite, 2010) narrative is a recurring principle listed for the successful design of exhibition spaces. Simon (2010) goes so far as to state that it is not the exhibit that

draws in visitors but the narrative the designers have created through the various design tools at their disposal. The matter of how this narrative is constructed is dependent on a variety of factors, both internal and external, and the change of shared social and cultural views can impact how these narratives, and the perception thereof, change over time (Francis, 2015). As discussed further by Francis, narrative changes over time, and so the way in which an exhibit is perceived also changes as the views and accepted truths of society change (Pg. 41). Francis even goes so far as to suggest that there is a separate subset of exhibitions, which he calls "narrative exhibitions", which are identifiable by their clear use of linear structure and reliance on direct, written information throughout (Pg. 48). In discussing the role of narrative, Francis points out that narrative is swayed by the opinions of the exhibition's designer and its host. He discusses the work of Grayson Perry in his guest curatorship at The British Museum entitled, 'Tomb of the Unknown Craftsman' (Figure. 3) and his application of narrative that sows discourse in the viewer, highlighting Perry's attempt to portray his exclusion from the traditional British Museum culture (Pg. 55). Ezra Shales (2012) discusses Perry's exhibit at further length, criticising, however, the excessive application of self-centred narrative throughout, stating that it detracts from the history of the objects on display (Pg. 234). This comes back to the point made by Francis (2015) that narrative can be a biased, fluid design principle that is ever-changing and can be interpreted differently by each individual viewer. Exploring further the use of narrative, this author



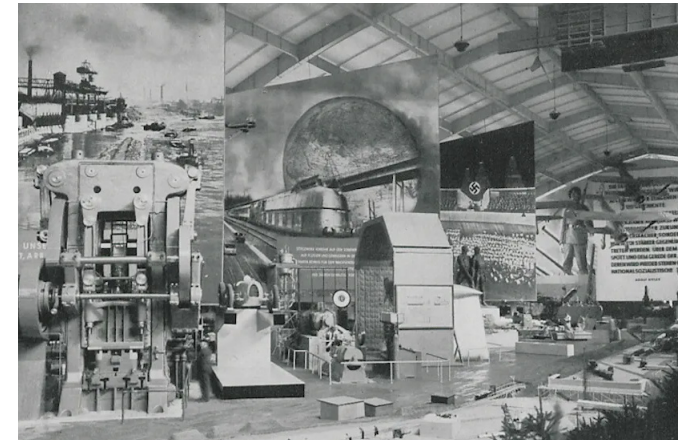
can say that while it is the use of narrative that intrigues the visitor and creates a story for them to follow, designers must be cautious of the influence of their own biases and the biases of their host (Francis, 2015).

### The Role of Visitor Participation in Exhibition Design

As raised in the work of (Skydsgaard, et al. 2016), participation is a core principle of contemporary exhibition and installation design. The role of participatory design is explored further by Nina Simon in her book "The Participatory Museum" (2010), where she defines design participation as the generation of visitor-created content. She discusses how exhibit interaction should be used to allow visitors to develop layered, valuable knowledge and experiences to take away with them instead of providing only a simple outlet of opinion (Pg. 1-8). Simon states that the most successful uses of participatory design result in the generation of valuable contributions to the host authority, wider exhibit and both participatory and non-participatory users (Pg. 6). The methods used to integrate participatory elements into exhibits vary, one method discussed by Ermina G. Pedretti (2004) is that of inter-user discussion and debate. Pedretti discusses an exhibit titled 'Mine Games' which featured in Science World Science Centre in Vancouver, and acted as a theoretical exercise in the advantages, disadvantages and impacts of building a new mine in a fictional town in British Columbia. The main focal point of this exhibit was a 'hot seat' style interaction where groups of visitors would debate using information

provided by the exhibit to determine whether or not the mine should be built (Pg. 37-38). In research conducted by Pedretti with a group of school students visiting the exhibit, she found that this method of participation helped visitors to develop a more complex knowledge and deeper understanding of the subject by having to defend their view of the exhibiting topic to others (Pgs. 42-43). Students were reported to be more excited, engaged and curious taking part in these activities than exhibits they had visited previously that lacked a form of participatory interaction (Pgs. 40-41). Pedretti goes on to make the statement that an exhibit's content and environment must work in tandem to encourage participatory discussion, having one without the other would result in an exhibit without purpose or impact (Pg. 43).

In assessing the literature on the use of visitor participation within exhibition spaces, this author recognises that in order to be successful, visitor participation must contribute something to the wider exhibit whilst also providing the visitor with their own new information and experiences to



**Top Right: Figure 1.** Painting of the opening of The Great Exhibition, 1851, at the Crystal Palace (Lake-Hammond and Waite, 2010)

**Middle Right: Figure 2.** 'Gebt Mir Vier Jahre Zeit' exhibition 1937, by Egon Eiermann (Tymkiw, 2018)

**Bottom Right: Figure 3.** Grayson Perry's 'Tomb of the Unknown Craftsman', 2012. (The British Museum, 2021)



take away (Pedretti, 2004).

### **The Use of Creative Communication in Exhibition Design**

A point made by Ian McGilchrist (2009) suggests that art and music were used as modes of communication long before the invention of structured language, so why should we now be so reliant on language to make a specific point (Pg. 548). Ahmad, et al. (2014) describe exhibitions as a tool for communicating, specifically as it can be tailored to the specific needs and requirements of the host institute (Pg. 256). In research conducted by Ahmad, et al., the authors list six techniques for exhibitions-based communication; aesthetic, didactic, hands-on, multimedia, minds-on, and immersive environment, detailing how these techniques are applied and the type of exhibit visitor they appeal to (Pg. 236). For example, they suggest that individual, language-based learners react better to text-based, didactic material, whereas immersive environments appeal to all forms of learners.

Hammond and Waite (2010), discuss the importance of the application of visual communication techniques in exhibits as humans are dependent on the successful communication of information for daily activities (Pg. 88). They also discuss the role of the designer in creating the link between content and delivery in order to smoothly communicate the purpose of the exhibit (Pg. 89).

Chen and Bian (2014) discuss how information can be visually communicated in an effective manner in exhibition spaces, stating that visual, creative language is the only way to

communicate and spread information in exhibition settings (Pg. 522). They provide five methods through which to visually communicate information; through colour, which they discuss as creating more emotional influence in a space; image-text, which refers to the graphic application and branding of a space to convey information that cannot be communicated without written words; illumination, influences the mood and atmosphere of the space and can accentuate the exhibits main themes; and material, a method for spatial creativity that can leave a last impression on the viewer on an emotional level instead of an informational one (Pgs. 522-523).

From the above literature, this author can derive that the application of creative communication can act as a facilitator for narrative and visitor participation as the successful application of creative media strengthens exhibition content (Hammond and Waite, 2010).

### **Application of Exhibition Design in Communicating Socio-Scientific Issues**

There have been several articles in the last few decades discussing the role of exhibition design in communicating socio-scientific issues (Iannini & Pedretti, 2022; Manzini & Jengou, 2003; Scoffham & Consorte-McCrea, 2018; Yun, et al., 2022).

One such article by Yun, et al. (2022) covers the topic to some extent discussing the role of, and therefore propriety of, the use of exhibition design when communicating “socio-scientific issues”. Discussing an increase in public interest in socio-

scientific exhibits due to an increase in ‘scientific literacy’ (Shamos, 1995) within the general public (Yun, et al., 2022, Pg. 102). They go on to describe “socio-scientific issues” as issues relating to science and technology that have a direct and ongoing effect on society and propose to suggest a strategy for designing such exhibits in a manner that provokes interest and visitor participation (Pgs. 100-101). The authors note a shift in focus in socio-scientific exhibition design away from scientific knowledge towards encouraging education through engagement and interaction (Pg. 102). The authors outline two categories of socio-scientific exhibitions; those that increase public engagement with the topic, and those that increase the topic’s relevance to society. Yun, et al, suggest several strategies for the successful completion of either category of socio-scientific exhibit; reaching diverse user groups, providing a broad selection of information, creating links between the science presented and wider society, and forging relationships with organisations relevant to the subject area. (Pg. 102). Their paper asks designers to consider how to make their exhibition relevant to its social surroundings, to consider how this subject relates to and influences the local community and society, and how their subject relates to wider organisations and societies. (Pgs. 103-104). Yun, et al. round off by describing three main characteristics of socio-scientific issues exhibitions, they should help visitors to make a clear connection between the scientific content and their experience in society, provide them with suitable informational content so as to have a good understanding of the subject, and to provide a space for visitors

to participate in the subject discussion through various methods. (Pg. 106). Iannini and Pedretti (2022) continue this discussion of the use of exhibition design as a tool to communicate socio-scientific issues through the lens of scientific literacy. They make the point that the information provided within the exhibit must be relevant, up to date, and accessible in order to accommodate the level of scientific literacy wielded by the users and state that the displaying of scientific knowledge is delicate and a balance must be struck between knowledge and approachability (Pg. 18). They discuss the example of the exhibit 'Our World' based in Science World, Vancouver and the importance of designing a narrative that creates the desired emotional reaction from the visitor. Science centre staff reported that much of the information provided within the exhibit was negative and highlighted everything the human race had done wrong in terms of environmental impact, this discouraged visitors and left them with negative connotations with the exhibit and its subject matter (Pgs. 11-12). This point refers back to the impact, whether positive or negative, that the use of narrative can create within an exhibit.

An article by Scoffham & Consorte-McCrea (2018) provides an example of the points raised by Iannini and Pedretti (2022) and Yun, et al.. (2022) in their discussion of an exhibit at Canterbury Christ Church University titled 'Whole Earth?'. This exhibit was comprised of six, ten metre long banners, printed with impactful sustainability-based imagery, from photographer Mark Edwards, to tackle a variety of pressing

environmental issues with the hopes of integrating sustainability and environmental consciousness into the curriculum of the university. The article reports the success of this exhibit through its use of emotive media in creating a strong narrative that promoted the discussion, and adoption, of the exhibit's key issues and ideas by the university staff and students.

Another example of socio-scientific exhibition practice is that of the 'Sustainable Everyday: Scenarios of Urban Living' exhibit held at the Triennale di Milano in 2003 and which commented on developing concepts of what the ideal home would look like in a sustainable future (Manzini, et al., 2003). The authors discuss how the exhibit is split into two sections; workshops and scenarios, the workshops provided information on the subject and the scenarios encouraged interactivity and visitor discussion and engagement (Pg 2). The key feature of this exhibit, however, was its transportability as a predominantly light-based design, allowing it to be moved from site to site, allowing the exhibit to reach a wider audience range. This article highlights the importance of interactive issue discussion and audience outreach in successful socio-scientific exhibits (Pg. 3).

## Conclusion

In reviewing the current existing literature on the use of exhibition design as a tool for communicating socio-scientific issues, in particular sustainability, this author was able to identify an evolution of the field away from information-heavy space to exhibits that engage

the visitor and encourage further discussion (Iannini & Pedretti, 2022; Manzini & Jengou, 2003; Ermina G. Pedretti, 2004; Scoffham & Consorte-McCrea, 2018; Skydsgaard, et al. 2016; Yun, et al., 2022).

In terms of applying these findings to the creation of socio-scientific issues-based exhibition design, designers must be aware of the context of their exhibit in order to relate to their visitor demographic. Exhibition design is successful in communicating socio-scientific issues as it provides a space for open discussion and participation in a given topic. Designers must be careful to balance the use of narrative, visitor participation and creative communication in order to create a space that entices and encourages a visitor's interest, whilst remaining truthful to the current informational, social and cultural knowledge of the issue.

In the undertaking of this review, however, this author can identify a gap within the literature in terms of investigation into visitor interaction with socio-scientific exhibition spaces. Aside from the work of Pedretti (2022 & 2004) in their observations on the Vancouver Science World, few authors who discuss the use of exhibition as a tool for communicating socio-scientific issues carry out observational studies to ascertain the real-world applications of their theories. It is from this observation that this author can determine the need to complete a study that observes how the general public interacts with socio-scientific issues-based exhibitions in order to further refine the use of exhibitions as a communication tool for socio-scientific issues.

# 03

## RESEARCH

## METHODOLOGY

### A Discussion on the Use of Ethnographic Observation in the Assessment of the Design and Use of Exhibition Spaces

#### Identification of Research Area

From a previous review of existing literature, this author has determined a gap in knowledge regarding the practical application and use of exhibition design as a tool to communicate socio-scientific issues. Few authors, with the key exception of the work carried out by Ermina Pedretti (2004, and 2022), discuss how users interact with exhibition spaces and if this interaction differs when the exhibition content is socio-scientific in nature. It is this author's hope that in performing a qualitative study in the form of covert shadow observation of a selection of exhibition spaces, both socio-scientific in nature and not, a stronger set of principles may be outlined for the successful use of exhibitions in communicating socio-scientific issues.

#### Research Methods

##### Qualitative Studies

This author has chosen to perform a qualitative study over a quantitative one as it will provide scope for a more in-depth analysis of the use of exhibition spaces. Qualitative research provides for the consideration of various factors that qualitative research would not, for example the recording of the body language of an observed subject or the volume of children's laughter as they interact with an exhibit. This type of information is considered essential to the research of design content as it allows for space for the subjectivity and unique human interaction of designed spaces. Qualitative research would

not be capable of accurately recording the level of experiential content required to make an accurate assessment of the types of interactions performed within an exhibition environment between the visiting public and the exhibit.

The primary focus of this study is to observe how users interact with exhibition spaces. Assessing how the key principles of narrative, creative communication and interactivity, as identified in a review of existing literature, are utilised within these spaces and to what degree of effect. This study will determine how users engage with socio-scientific exhibition spaces in comparison with standard museum exhibits and artist-occupied exhibition spaces, and assess whether the application of the three aforementioned exhibition design principles differ in their application and effectiveness between the three.

##### Observational Research

The key method of research for this study is the ethnographic practice of shadow observation, carried out in a covert fashion to ensure the untainted quality of the observations. As stated by Linda Baker (2006) ethnographic observation is a complex research method as it often requires the use of the researcher's five senses to make accurate observations, and to always ensure that one is involved enough in the space to make these observations but withdrawn enough so as not to taint the natural activity of the observation field (Pg. 172). This study focuses on the branch of observation named by Baker as the work of the "Complete Observer" (Pg. 174), also often referred to as shadow observation. This practice is defined

by the immersion of the researcher within a space or activity whilst maintaining a complete lack of participation with the space, people or objects being observed.

## Precedent Study

This research exercise loosely follows the example of a similar study conducted by Ermina Pedretti in her research on the use of exhibition design as a learning tool for socio-scientific issues (2004). In this study, Pedretti conducts an observational study of a school group visiting two exhibits in 'Science World', Vancouver, making observations on how the students react to both the content and presentation of the exhibit. These observations were valuable to her study as it provided a comprehensive pool of information regarding the physical and emotional engagement of the participating students. Pedretti followed up this observational study with a small selection of interviews with these students in order to gain a more thorough insight into how much information the students were taking in through the exhibition's methods. This study on the assessment of how visitors interact with exhibition spaces, and if this changes based on exhibit content and design, uses similar observational techniques to Pedretti (2004), but consciously omits the use of interviews as this research focuses on the phenomenological study of visitor interaction and reaction to a space, rather than the informational intake by a visitor.

## Validity of Methods

The validity of the results produced from observational studies has been questioned in the past due to their subjectivity to the performing researcher. Stating that any result collected cannot be reliable as, should another researcher perform the exact same task, their results would be different as the activities observed by the first researcher cannot be exactly replicated, and the perspective of the second researcher is likely different to that of the first (Angrosino, 2007).

# 04.1 OBSERVATIONAL STUDY

## An Outline of the Observational Study of Visitor Interaction in EXhibition Spaces

### Introduction to the Research

As previously outlined in the methodology of this paper, this research study uses the ethnographic practice of covert shadow observations in order to gather qualitative data regarding the use of, and interaction with, exhibition spaces to determine whether this changes depending on the theme, content and design of the exhibit. From this data, this author hopes to make a series of suggestions regarding the design of exhibition spaces that will aim to improve the level of interaction between these exhibits and their visitors that improve the quantity and quality of information taken in via interaction with exhibition spaces.

This research takes the form of three observational studies carried out at three different locations, targeting exhibits with varied context, design and content. Each of these observational studies will last one hour and will be comprised of this author, the researcher, sitting in, and walking around, an exhibit, taking extensive notes throughout, paying particular attention to the attendees of the exhibits, observing; their approximate ages, body language and behaviour, and general vocal and physical reactions to the space.

**Location:** The Glasgow Science Centre, Glasgow  
**Exhibition:** 'Powering the Future'  
**Date and Time:** 03-11-23  
**Description:** This exhibit is comprised of a variety of analogue and digital interactive games and activities, primarily aimed at children between the ages of 5-15 years old, focussing on the future of energy creation and usage. This exhibit is one of the science centres long-term installations

**Location:** The National Museum of Scotland, Edinburgh  
**Exhibition:** 'Rising Tide: Art and Environment in Oceania'  
**Date and Time:** 10-11-23, 11.55am-12.55pm  
**Description:** This exhibit focuses on the increasing presence of plastic in the oceanic territories and displays several art works and installations. The exhibit includes three interactive audio-visual stations and concludes with a large scene traditional to the Indigenous Peoples of Australia and Pacific Islanders created from waste plastic.

**Location:** The Fruitmarket Gallery, Edinburgh  
**Exhibition:** 'Flagging it Up' by artist Zarina Bhimji  
**Date and Time:** 10-11-23, 2.00pm-3.00pm  
**Description:** This exhibit is an artist occupied space, curated in a gallery style, which features six artworks, comprised of video, photography, collage, and physical installation, by the artist Zarina Bhimji and displays the artists work surrounding immigration, colonialism, poverty and religion, this exhibition has a single audio-visual interactive element at the end.



## Observation 1: Powering The Future, Glasgow Science Centre

### A Description Of The Space

This exhibit is based in the Glasgow Science Centre and focuses on exploring the future of energy creation and usage, applying a variety of design methods, including both analogue and digital interactive activities in an attempt to create an engaging learning environment for their target audience of children and families. This exhibit is situated in an open industrially styled space, roughly 20m x 18m in size, within the centre's main building. 'Powering the Future' is primarily comprised of a collection of information boards and interactive activities, both digital and analogue, which aim to tell the story of how the energy industry is moving forward in alignment with modern principles of sustainability. Seating, information boards and screens, and hands-on activities line the perimeter of the room, with 9 islands within containing more points for interactive engagement.

### Observations Of Visitor Behaviour

The primary audience attracted to this space were those under the age of ten, with the next most common visitor group being adults between the ages of 31-60, identifiable as the parents, carers and teachers of visiting children. A contributing factor to the high number of

under 10s in attendance at this exhibit can be attributed to the presence of two school groups visiting the centre and passing through the exhibit across the duration of this observational study. Although adults between the ages of 31-60 were the second most common visitor group to this exhibit, it was clear that the majority of these adults were there to facilitate the activities of the children in their care. Many of these adults shadowed the activities of their children, only partaking in interactive activity at the behest and encouragement of these children. The role of the adult within the 'Powering the Future' exhibit appeared to be that of a translator, relaying the information displayed on the supporting graphics of an interactive activity and the child engaging in the activity. This lack of interest in the information presented through graphic media seems to be through no fault of literacy on the part of the child but in the all-encompassing attraction of the interactive components of the space. It was observed that, upon entering the exhibit, few children followed the same path through the space, instead most elected to, or, this researcher is more inclined to say, enticed to, bounce between the variety of hands-on activities vying for their attention. The reaction to most of these interactive activities was that of excitement and curiosity, though this researcher must point out that this curiosity seemed primarily directed towards how these activities functioned rather than the content and information behind the activity. It must be noted however that older children, between the ages of 11-18, seemed more inclined to pause upon being faced with an interactive station, appearing more inclined to

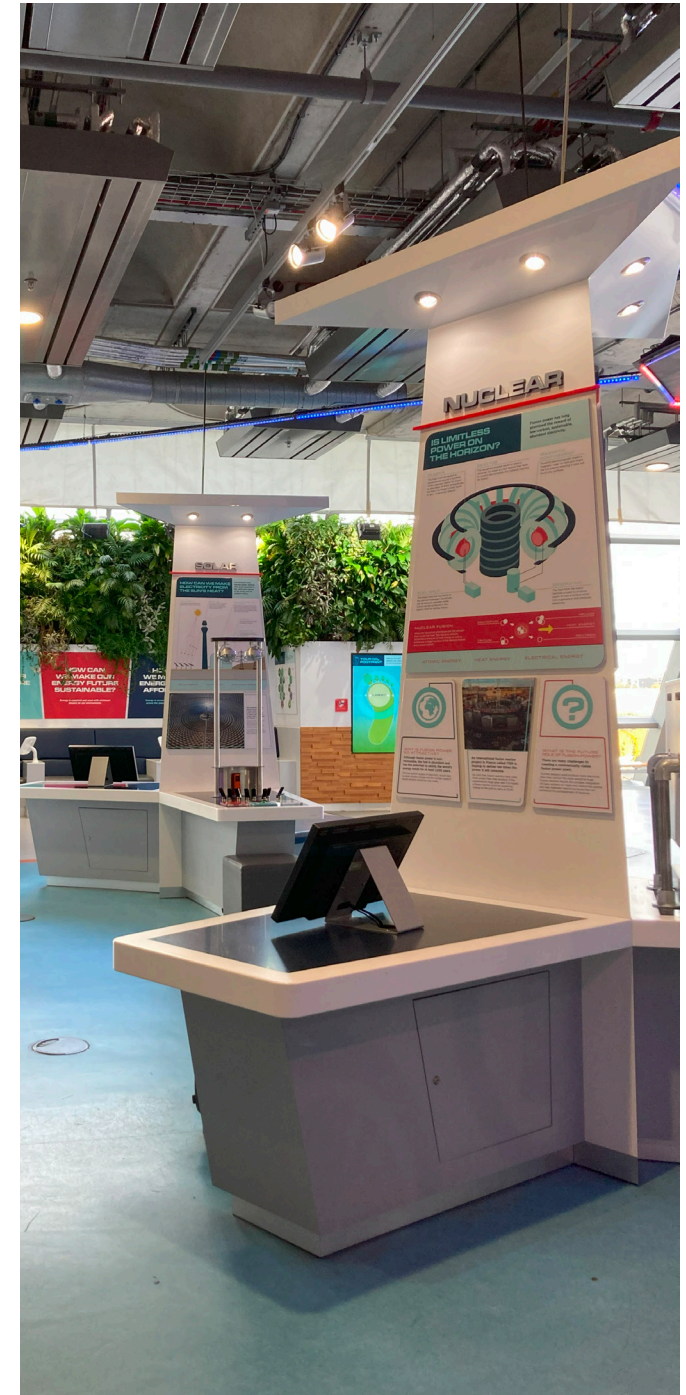


take in the informational context of the activity before partaking. This lack of any particular direction for visitors upon entering the exhibit could be attributed to the lack of way-finding features within the space as a whole. The structure of the space, with three potential entrances/exits and activity stations scattered throughout with little to no graphic or spatial interventions to direct the visitors towards any specific starting point, created a sense of confusion for visitors. This lack of way-finding

highlighted a lack of narrative within the space that exacerbated the chaotic to-ing and fro-ing of visitors within the space. What little narrative that was present within the exhibit appeared in the form of printed information boards which seemed to go largely unnoticed by the child visitors of the exhibit. However, it must be noted that many adults stopped to read these boards as they waited for their child to complete an activity, on occasion, relaying the information they had read to the child.

**"...that's cool, you can move it..."**

- a woman in her 30s, talking to her companion about an interactive (see below image) that used solar energy to power a water jet that moved a red ball.





## Observation 2: Rising Tide: Art And Environment In Oceania, National Musuem Of Scotland

### A Description Of The Space

The exhibit, titled 'Rising Tide: Art and Environment in Oceania' is a small exhibit curated by National Museums Scotland that highlights the work of a variety of artists who use their work to discuss the issues being caused by an increasing presence of ocean plastic in Oceanic territories and how this affects the Indigenous Peoples of Australia and Pacific Islanders in the region. This is a small exhibition, located in one of the more isolated top galleries of the National Museum in a room of around 20m x 5m. The space is accessible by two entrances at opposing ends of the exhibit and is split into three main sections, divided through the use of information board screening and plastic installations. The first section features a continuous video piece with two benches to allow visitors to sit and watch for however long they wish. The second section, and the largest of the three areas, features a collection of photography and six display cases whose content includes: a set of three kimonos created to reflect the effect of ocean plastic, items of clothing traditional to the indigenous peoples of Oceania crafted out of reclaimed ocean plastic, and historic examples of tools created using materials discarded by settlers. The third and final section of the exhibit

is dominated by a large installation of a scene featuring a traditional Polynesian double-hulled canoe called a wa'a kaulua, surrounded by the life of the ocean, the entire scene is formed out of reclaimed ocean plastic such as bottles, containers and fishing rope.

Throughout the exhibit there are three audio-visual stations which use ear cups so as not to create conflicting noise within the space against an existing ambient soundtrack that plays a traditional rowing chant on a loop.

### Observations Of Visitor Behaviour

A key observation that can be made of this exhibit concerns that of visitor demographic. During the hour spent observing this space, no children or young people under the age of 18 were seen within the exhibit. The two main visitor demographics seen to be engaging with this exhibit were that of students between the ages of 19-30 and older members of the public over the age of 60. During this observation it was seen that older visitors were engaging the most fully with the exhibit, with one man, who appeared to be in his 60s, taking his time to read every information board, annotation, and object label throughout the exhibit. In comparison, many of the younger visitors passed through the exhibit fairly quickly, stopping to look at artefacts of visual interest or listen to the audio-visual content, however, this researcher must point out that only two young people between the ages of 19-30 listened to the full duration of any audio-visual content.

Many visitors, from across all estimated age

ranges, were most acutely engaged with the immersive ocean plastic sculpture towards the end of the exhibit. The majority of these visitors to this specific area would take photographs or videos of the sculpture, with some walking in, taking their photograph, and walking out again, neglecting to turn around to look behind them at the information boards that provided a further context and meaning to the installation. It must be said however that the audio-visual sound cups were engaged with most here in comparison with the two others in the rest of the exhibit.

Likewise, a similar statement can be made of the information boards in this final third of the space, these appeared to be the most commonly read boards of the entire exhibit. This part of the exhibit appeared to be the main attraction of the space to many visitors, with few leaving without taking a photograph or video of the immersive sculpture.

Conversely, it was observed that the looped video element at the main 'entrance' to the exhibit was one of the least interacted with components of the entire space, with many people sparing only



a glance as they walked past towards the rest of the exhibit. This video was a series of looped footage of an artist lying on her back on a stone pier as she is moved and jostled by the rising tide. This video also included a soundscape of waves lapping and splashing in the background, a sound which, depending on one's position within the space, overlapped with the chanting soundscape of the ocean plastic installation. Some visitors perceived the benches, provided to watch the video, as little more than a seat to rest before continuing on, with several people even sitting with their backs to the video screen, clearly displaying their lack of intention to watch or engage with the video content. Over the course of the hour-long observation, just less than 20 people were seen in the exhibition space, two of those being staff members of the museum. In comparison to the wider museum, this particular exhibit was very quiet, with repeated stretches of around five minutes where there were no people in the exhibition space at all. What time visitors did spend in this exhibit was spent in quiet contemplation, or in quiet discussion with their companions. An interesting observation of this space was its use as a thoroughfare by other visitors of the museum with several cases throughout the hour-long observation walking straight through the exhibit as if it were a corridor, paying no heed to their surroundings, one such example was that of a man in his 30s who walked through the space quickly, speaking loudly on the phone as he went. This, as well as the general low footfall and low engagement levels indicates a misalignment of principles along the design process of this

space. These issues may be related to the out-of-the-way location of the exhibit or the subject matter, either way, further analysis is needed to determine the cause of this lack of engagement.

**This seemed to be, for many visitors, a photo opportunity rather than a space for learning.**



### Observation 3

## Flagging It Up, The Fruitmarket Gallery

#### A Description Of The Space

This final observation focuses on a collative exhibit highlighting the work of artist Zarina Bhimji, titled 'Flagging it Up'. This exhibit is set across two floors of the gallery and contains works in a variety of media including photography, artistic installation, collage, and, most centrally, film. The focal points of this exhibit are the artistic installation and video on the ground floor and two videos on the first. All video content is displayed in pitch-black rooms measuring roughly 5m x 7m, accessed via a short U-turn corridor to ensure the immersivity of the lighting. These film rooms are also furnished with two to three wooden benches to allow visitors to sit while viewing the video content, with run times varying from 7 minutes to 27 minutes. The art installation section of the exhibit sits in its own room, roughly 4m x 8m, and is comprised of four A3-sized collage photography pieces sandwiched between sheets of Perspex and suspended over a line of piles of turmeric and chilli powder. The photography and collage elements are situated along the linking spaces between the two film rooms on the first floor. The photography piece captures a crumbling door in an Indian palace and, as stated by the Fruitmarket Galleries written material on the exhibit, helps as a contextual link between the two films. The collage element is a framed artwork of three children's dresses fashioned out

of maps of India, Africa, and the United Kingdom. The exhibition also contains small documentary-style audio-visual elements on the second floor following the artist's own works. This component discusses the curation and purpose behind the exhibit and is comprised of a large screen with two sets of headphones and to which faces a wooden bench for the visitor to sit and watch comfortably. Alongside this final audio-visual component a small bench is appointed upon which sit five books about the work of Zarina Bhimji, these books are, interestingly, secured to the bench via locked security wire to prevent, one must assume, their theft at the hands of a visitor.

#### Observations Of Visitor Behaviour

Due to this exhibition being spread out across two levels, this hour-long observation involved the incremental observation of the individual spaces that together create the exhibition. One of the most notable observations of this exhibit is that of the dynamic created by the users of the space. Half of the observed visitors to this exhibit were over the age of 61, seemingly attending in pairs and seen to meander through the various sections of the exhibit paying acute attention to every detail. The next most common visitor group was that of single women, mostly middle-aged. There were, however, no children in the space but a single woman with a baby (possibly around four months) strapped across her chest. An interesting moment to observe unfolded upon this woman and baby's entrance to one of the dark film rooms. The woman appeared to be very engaged in the film, quietly paying attention

in a similar fashion to the rest of the visitors in the room; three men in their 70s (two sitting, one standing), a woman in her 70s standing with one of the older men, and two women in their 30s. The baby began to fuss and both seated men turned to look at the woman with the baby, their facial expressions betrayed a feeling of upset and annoyance towards the disturbance, the woman and baby promptly left and were not observed in any other parts of the exhibition thereafter. This observation begs further analysis of the atmosphere created by the exhibition, as these observations would suggest the creation of a discriminatory environment for certain groups. The exhibit as a whole was a quiet one, with visitors quietly conversing with each other if they felt the need to make comment on a particular aspect of the space. This reverent silence was most strongly upheld in the video-viewing areas where any noise, such as the incident with the woman and baby previously described, seemed to be negatively regarded by the occupants of the space. This implies a level of deep interest and investment in the exhibition content by the visitors, however, a contrast was observed in the body language of those in attendance, several of whom were among those visibly riled by audible interruptions. Many of these visitors could be seen regularly shifting in their seats, switching their weight from foot to foot as they stood, or otherwise generally fidgeting in a manner that alluded to a level of boredom or impatience. It was noted that these restless motions were most commonly observed in the longest of the three video rooms, where the piece of film on screen lasted 27 minutes. It was also observed in



this particular space that many visitors did not stay the duration of the film, instead entering the space, and standing at the back of the room for around five minutes, before leaving without a word. Such behaviour was repeatedly displayed by what appeared to be a family group of a mother and father in their 60s with their daughter, who appeared in her early twenties. This family group were seen in all three of the video rooms entering, spending a few minutes in the space and then exchanging looks between themselves before wordlessly deciding they wanted to leave. This researcher believes there is an interesting point to be made here regarding the role of respect in more formal exhibition spaces such as this. This family group had enough respect for the space to have reservations about making any noise, and not show the respect to stay to the end of the artistic pieces on display. A clear division was observed within the visitor demographic attracted to this space, with some taking their time and showing a clear attentive interest and engagement with the pieces on display, while others passed through the space with only a passing interest in the exhibition's purpose and content.

It was observed that the lack of graphic application and spatial structure throughout this exhibit negatively affected visitor navigation of the space. Visitors seemed to be expected to find their own way through the space, to decide which video to watch first or how long to stop at the art and photography installations. Similarly, the lack of literary description and information provided to support the exhibition content forced visitors to form their own interpretations of the artefacts

they were faced with. This type of graphic application is expected in art galleries when dealing with paintings, photography or sculpture, however seemed to become an issue here in the case of the video content. Some visitors could be seen and heard trying to decipher the meaning of the film they were viewing, with one older man seen leaning over to his companion to express his interpretation of the piece to see if his friend agreed or not. This raises the question of the role of subjectivity in exhibition spaces.

## "Hm... colonialism I suppose?"

-the deciphering of subject matter by an older visitor made while watching one of the three un-annotated film pieces.



# 04.2

## DISCUSSION & SUGGESTION

### The Emerging Concept of Internal and External Narrative Interpretation: Designing for Visitor Interaction

#### Discussion Introduction

The data gathered from these observational studies reveals several compelling insights into the interactions between visitors and exhibition spaces and raises further questions concerning the methods used in the application of the design methods identified in the review of existing literature, those being; narrative, visitor participation, and creative communication. A key issue raised from this research was the differing approaches to visitor interaction and consideration of visitor interpretation of the space that this author feels need to expand upon further. A central concept that this discussion seeks to outline is that of internal versus external narrative interpretation; this referring to the manner in which visitors interact with components of a space, assessing the demographic of visitors drawn to components that facilitate either internal or external narrative interpretation. The terms internal narrative interpretation and external narrative interpretation were chosen as they help to clearly outline the manner of interaction (internal or external), in terms of how the visitor interprets the information (referred to as narrative), whether this be text, imagery, video, or hands-on interactive, provided to them. This discussion explores more fully the implications of this design methodology and its potential applications and development.

#### Limitations of the Study

From the assessment of the findings of this study, this author is able to identify some limitations to the undertaking of this research. The first, and most relevant, limitation to this particular study is that of time; a constrained time scale meant that the number of exhibits that were able to be observed was limited to three. This study was also geographically limited to exhibits within Edinburgh and Glasgow and so this paper can only make generalised statements regarding the interactions between visitors and exhibition spaces in the central belt of Scotland. These limitations mean that this author is unable to make any definitive proposals based on the data gathered, and instead makes recommendations of practice applicable to the central belt of Scotland, as well as outlining possible avenues for further research to sure up the validity of any proposals made within this paper.

#### Discussion of Findings

Clear comparisons can be made between the types of visitor interactions observed within each of the exhibition spaces. Passive participation, primarily manifested through the taking of photos or videoing of the space, was observed in two of the three spaces, those being the 'Rising Tide: Art And Environment In Oceania' and 'Flagging it Up' exhibits, while more openly active participation was observed mainly in the Glasgow Science Centre's 'Powering the Future' exhibit. In comparing the observational data of all

three spaces, this author can identify an area for further analysis regarding the types of engagement displayed by visitors. It can be said from this research that types of visitor engagement falls into two categories, named by this author as internal narrative interpretation and external narrative interpretation. The former of the two refers to behaviours observed primarily in the 'Flagging it Up' exhibit and partially in the 'Rising Tide: Art And Environment In Oceania' space, wherein visitors were observed taking their time exploring the content provided, most often in silent solitude, and in the case of 'Flagging it Up', showing outward disagreement to the interruption of this thoughtful internalisation of the exhibit. This necessity for an internal dialogue that facilitates the understanding of the material provided can be attributed to the lack of supporting informational content such as written text, audio-visual content and other methods of creative communication previously outlined in the literature review of this paper (Pgs. 5-9). Compared to internal narrative interpretation, external narrative interpretation was primarily observed in visitors of the Glasgow Science Centre's 'Powering the Future' as well as in the 'Rising Tide: Art And Environment In Oceania' space. This form of narrative interpretation is defined by this author as the external manifestation of understanding formed from the engagement of exhibit components. This type of behaviour presented itself in loud, vocal exchanges between visitors as well as quick, hands-on engagement with all interactives, however also resulted in a lesser amount of time spent engaging with each component of the

exhibit.

The identification of the concepts of internal narrative interpretation and external narrative interpretation begs further analysis of how these visitor approaches can be incorporated into the design process in order to create a more 'successful' exhibit. This author suggests an approach to exhibition design wherein the exhibit and its content are designed according to the target demographic of the space. For example, it was observed during this trio of studies that spaces that employed some manner of external narrative interpretation, such as interactive activities, particularly hands-on examples designed for group use instead of independent use, attracted younger audiences and those who appeared to be working-class people looking for a daytime activity on a day off. Exhibits that incorporated elements that facilitated internal narrative interpretation from visitors, such as the 'Flagging it Up' exhibit in the Fruitmarket Gallery were most commonly frequented by visitors over the age of 60 and those who appeared to have an existing or vested interest in the arts. From this, this author suggests a design approach that constitutes first establishing the group that the exhibit is trying to target, determining, from this analysis, whether an internal or external narrative interpretation approach would be more appropriate, and then implementing design principles, such as narrative design, creative communication and interactivity as outlined in existing literature, where appropriate. This method of refining the application of design principles based on anticipated visitor

interpretation of the presented narrative has the potential to streamline the design process and aid in the creation of more successful and engaging exhibits that cater to, and attract, the desired audience. The concept of internal versus external narrative interpretation has the potential to further hone how designers create spaces that cater to individuality in the visitor, be that their personal interests or learning style. Internal and external narrative interpretation as a concept also shows potential, in this author's opinion, as a tool for the review of existing exhibition spaces, be that for private reviewing bodies or internal examination of existing exhibits by the likes of museums and galleries.

### **Potential for Further Research**

In order to verify the concept of internal and external narrative interpretation, this author suggests the undertaking of a broader, more in-depth research study that can provide additional information as to its potential validity as a method for exhibition design. This proposed follow-up study should follow a similar observational structure to the research outlined in this paper, however, assess a greater number of spaces to verify the patterns identified here. These observations being that internal narrative interpretation results in a longer, more introverted and engaged presence by visitors, typically in spaces that have little graphic application or direct informational delivery observed most often by those with a previous interest or knowledge of the subject at hand.

That external narrative interpretation results in a shorter, more extroverted engagement with interactive devices that offer a more literal form of creative communication, most commonly observed through the interactions of children and those with a previously uncatered curiosity. A wider study, both numerically and in terms of location, would aid in the determination of this concept as a valid tool for assessing and designing for visitor engagement with respect to a variety of settings.

# 05

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