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An enquiry into passive and active exclusion from unreachable artworks in the museum: Two case studies of final-year students at California School for the Blind studying artworks through galleries and on the web

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Abstract

Two case studies of students from California School for the Blind studying artworks in museums and on the Web are discussed. The analysis focuses on the traditional understanding that unreachable artworks in the museum are deciphered by non-intellectual elites primarily from the perspective of visual perception and museums are simple vessels of art, as contended by Ernst Gombrich and Pierre Bourdieu, and that exclusion is either passive or active. It is also argued that there is a bridge between sensing an object and understanding it that is beyond perceptions. The article concludes that the two students featured in the case studies were more likely to be passively rather than actively excluded from unreachable and two-dimensional artworks, and that they could still develop a symbolic intellectual and emotional connection with these artworks and the museum through verbal descriptions and being in their presence.

Keywords

Aesthetics, art education, artworks, fine art, museum education, museums, school for the blind, vision, visual impairment **[AQ: 2]**

Introduction

This article argues that there is an extra dimension to the understanding of works of visual art that can act as a partial bridge between the awareness of these objects to those who cannot perceive them through any senses and an understanding of their content beyond verbal knowledge. This

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bridge is described as an ambience which is provided by the environment and context of knowing artworks and that is apparent in museums, galleries, and monuments, and facilitated by proximity to the artworks. This ambience, it is suggested, is observable when perceptions of the object to be known are lessened or removed altogether by the impairment of the museum visitor. In making this argument, this article questions two particular theories of developing knowledge about visual art in the museum: the first is by the art historian Ernst Gombrich and is founded on a psychology of art, and the second is by the sociologist Pierre Bourdieu and is founded on the role of art in the museum for understanding and developing a social distinction between the cultural value of objects. Both theories regard the museum as a receptacle for works of art and as a site for the exercise of discerning vision.

Gombrich's psychological notion of institutions such as museums is that of establishments whose primary purpose is to be a receptacle through which art delivers *delight and profit* through an *economy of vision*. Within art institutions such as schools or museums, Gombrich's vision of an art educator concentrates on the psychology of understanding perceptions from direct experiential sources alone through a 'difference between seeing, looking, attending and reading, on which all art must rely' (Gombrich, 1984, p. 95). In relation to this consideration of visual culture, in an earlier article, he proposes that the museum environment is an institution of education and entertainment alone, a receptacle in which the order of exhibitions both intellectually and aesthetically are the primary consideration in its production of perceptual culture for the viewer:

in defining the aim [of the museum] on which I wish to concentrate, I shall adapt the famous line from Horace's *Ars Poetic* and suggest that *aut prodesse volunt, aut delectare custodias*. As museum people you want to offer us profit and delight . . . I am prepared for the objection that delight may not be the *mot juste* for the rendering of suffering from the Laocoon to Guernica; the fact that all arts are capable of transfiguring the tragic and the unpleasant has challenged philosophical aesthetics since the days of Aristotle. (Gombrich, 1977, p. 450)

Similarly, from a social perspective Bourdieu argues that artworks develop cultural capital (i.e., knowledge that has a social and cultural value to the person who attains it, much in the same way as money has material value to someone who gains it) through the museum, although to him they are deciphered primarily from the perspective of visual aesthetics by all but social and intellectual elites for the purpose of determining class distinctions. These distinctions are based on elements such as the familial upbringing and education of the visitor to the museum, through their learnt habits of viewing artworks. In this respect, the museum again plays the role of a receptacle of artworks, but this time one that represents intellectual and aesthetic development in the same way that a gymnasium is a receptacle of exercise equipment for developing muscles in an athlete in order to gain physical advantage over others. For instance, Bourdieu noted of one moderately educated middle-class observant that he continued to learn tediously to fulfil a social need as a form of intellectual recreation:

'I wanted to be able to tell myself I'd done the museum, it was very monotonous, one picture after another. They ought to put something different in between the paintings to break it up a bit' (engineer, Amiens, aged 39, Lille Museum). These comments are reminiscent of those of the conservator of the New York Metropolitan Museum, who sees his museum as 'a gymnasium in which the visitor is able to develop his eye muscles'. (Bourdieu, 2010, p. 269)

In order to challenge the theories of Gombrich and Bourdieu, this article investigates the social and cultural importance of *real world* (i.e., the physical museum) and Web-based (i.e., virtual, digital representations of galleries and museums) environments to the comprehension of visual

artworks by two students from California School for the Blind (CSB). These studies are part of small-scale grounded theory investigation visitors to the Metropolitan Museum of Art (the Met), New York; independent museum visitors; teachers at the Met; and students in two US schools for the blind, and observations of lessons and verbal imaging tours at the Met. This enquiry focused on learning about such exhibits in museums through these students' lack of visual perception and descriptions and their motivation to learn about such artworks in their given environments.

The primary aim of this article is to contribute to the debate on fine art education and curation and the role of museums and the Web in the development of this debate. Hayhoe (2003, 2008b) in particular finds that there has been scant investigation of these issues and their relevance to a general understanding of the role of culture and art education for visually impaired students. It is argued that such a debate can inform inclusionary measures in visual culture education, a notion stipulated in a number of international laws including the Americans with Disabilities Act, Amendments (US Department of Justice, 2009) and the UK Equalities Act, 2010. In addition, what follows is designed to provide the reader with an introduction to a broader debate on the nature of the visual arts, art education, and visual culture, as it questions the idea that learning about such concepts is premised primarily on visual perception. These issues are investigated through case studies of blind people studying art through museums, according to variables such as previous education, art practices at home, and social and cultural background. Before presenting these case studies, however, the context of the work and its methodology are addressed.

Context and methodology

As stated above, the enquiry was part of a small-scale grounded theory (Glaser, 1978; Glaser & Strauss, 1967) of four visitors to the Metropolitan Museum of Art (the Met), New York; seven independent museum visitors; three teachers at the Met; and eight students in two US schools for the blind – the latter were based at CSB (San Francisco Bay) and Perkins School for the Blind (Boston) – and observations of lessons and verbal imaging tours at the Met. It evolved through an earlier model based on impediments to the education of visual culture in art and computing (Hayhoe, 2012a). This earlier model placed less emphasis on Glaser and Strauss' original, formal structures of investigation but kept three stages of data collection and analysis originally proposed by the authors: open coding, axial coding, and selective coding – the findings of the open coding stage are set out in an alternative article (Hayhoe, 2013). These stages are set out in Figure 1.

To implement this grounded theory, the study employed three methods of data collection: interviews, participant observations, and a literature search. The interviews used open questioning to elicit protracted responses (Griffin, 1985; Lincoln & Denzin, 1994). Students were particularly encouraged to give examples of their difficulties in comprehending art and also asked to give instances of their museum experiences, early education, and Web usage. The participant observations were informal and immersed the researcher in classroom culture, as set out in traditional models (Berreman, 1968). Their focus was on teaching practices, students' reactions to these practices, and questions that arose in the lessons.

Participants in the open coding phase were chosen by staff members at CSB in partnership with the researcher, the education department at the Met, and a small number of colleagues at universities and schools for the blind. These were referred to as research informers (Hammersley, 1984). All the participants were legally blind as defined by the US Department of Social Security (2012) and were initially taken from a sample of visitors to the Met during the first few weeks of the study; they represented a cross section of visitors involved in the verbal imaging tour at the museum at the time. **[AQ: 3]**

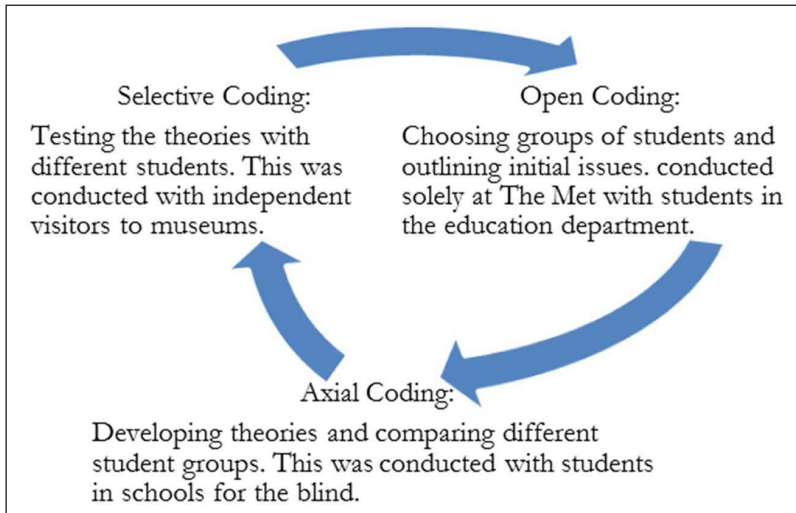


Figure 1. A representation of the data collection and analysis stage.
Source: adapted from Glaser and Strauss (1967).

During analysis of the open coding data, adapted categories of visual impairment and visual memory by Lowenfeld (1981) were used. These were tested in previous studies of visually impaired computer programmers (Hayhoe, 2011a, 2011b, 2012a), as it was found that those with different levels of vision and memory had significantly contrasting life experiences. These categories were defined as follows: Total Blindness (no light perception), Minimal Light Perception (some light perception, but just enough to be usable in lessons), and Distorted Vision (light perception, but highly distorted and registered blind). The categories of memory studied were as follows: No Visual Memory (totally blind from birth or infancy, 0–2 years), Assimilated Blindness (blind from early childhood but with some light perception, primarily low visual), and Visual Memory (blind or low vision after developing strong visual memories).

Data for the open coding were gathered through observations of lessons and interviews at the Met. The lessons either consisted of audio tours of paintings within small groups or individuals in the galleries or more structured touch or drawing lessons in formal classrooms. Although the number of visually impaired visitors to the museum was limited, visitors and students were sampled and interviewed according to age, ethnic background, and gender where possible, and then interviewed in order to record a mix of experiences. Their data were then reviewed and themes for the axial coding phase were identified.

The framework used to analyse the data was based on the literature of disability exclusion and institutional access, as these informed the debate on physical access to museum pieces. This was an initial theme of the research. It was observed that this literature focused on a notion of access that tended towards two poles of exclusion from society. In this article, the first pole is termed active exclusion and comes from the political theory of disability as a direct consequence of an ableist agenda. Hehir (2002) describes this as

the devaluation of disability [which] results in societal attitudes that uncritically assert that it is better for a child to walk than roll, speak than sign, read print than read Braille, spell independently than use a spell-check, and hang out with nondisabled kids as opposed to other disabled kids, etc. In short, in the eyes of

many educators and society, it is preferable for disabled students to do things in the same manner as nondisabled kids. (p. 3)

The active exclusion argument is also based on a more general social model of conscious exclusion (Mills, 1970), where the deliberate oppression of disabled people is seen as analogous to oppression based on race or gender (Hehir, 2002; Smith, 2001; Valeo, 2009). This model also sees all disabilities as equal in this oppression, as it is disability as an object of difference that is the target of oppression by the able-bodied person (Oliver, 2001). For example, Valeo (2009) finds analogies between the prejudice shown to people with disabilities and those prejudices shown to minority ethnic families in Canada across two different centuries.

Similarly, Pfeiffer (1994) finds that systematic legislation has supported eugenics and active discrimination against people with disabilities in the United States, particularly those with learning difficulties, in the 19th and 20th centuries. **[AQ: 4]** He also reports that there was openly expressed prejudice by high ranking officials against people with disabilities and finds evidence to suggest that there was a general belief in the inferiority of the disabled population. For example, in one instance he gives the following quote from Massachusetts Governor Benjamin Butler, from an address to the state legislature in 1883, in which he claims that people with learning difficulties should not be educated, as a state of un-educatedness would make them happier: 'A well-cared-for idiot is a happy creature. An idiot awakened to his condition is a miserable one' (Pfeiffer, 1994, p. 492). Pfeiffer's argument is also supported by historical data on blindness, learning difficulties, and deafness in the United States dating back to the foundation of its separate schooling. For example, S. G. Howe, founder of the first of these schools in the United States, was a strong advocate for the science of phrenology and believed that children with bad posture were at a greater risk of becoming blind, as sitting in a slumped manner would restrict the flow of blood to the brain and eyes. As a result, he and Horace Mann, the founder of the US public education system, promoted a standardised desk and seating system for public schools that would keep able-bodied children in a suitable physical position in order to maintain their health (Mann et al., 1839). Furthermore, Howe separately argued that married couples with inherited deafness should not have children, as the condition was an offence to humanity and the moral condition of the general population (Howe, 1837). As a result, he argued that having impaired organs was a 'departure from the natural laws of God' (Mann et al., 1839, p. 299) and that a society's degeneration could be measured by the number of people with disabilities who resided in it.

Literature on active exclusion from the arts also draws upon the prohibition of life chances and education as a form of oppression by institutions such as museums (Barnes & Mercer, 2003). In this role, it is argued that disability arts, a separation from mainstream arts by and specifically aimed at disabled people, can be a tool to redress this inequality in museums and galleries (Barnes & Mercer, 2003; Sandell & Dodds, 2010). However, Darke (2003) argues that this movement itself has been hijacked by an ableist agenda in environments such as access and education departments in mainstream museums and able-bodied funding bodies in order to suppress this form of culture and remove political and intellectual content from its educational role through hegemony.

The second pole in the literature on exclusion is passive exclusion. This literature is based on the argument that our attitudes towards individual disabilities have largely evolved through arbitrary social and cultural factors, and that these are often the result of power struggles, although these are rarely directly related to gaining power over disabled people but are often the result of power struggles in separate areas of society (Hayhoe, 2008b, 2012a). Therefore, our understanding of blindness in particular has changed in different environmental, cultural, and historical contexts, and these have real social and emotional effects on the humans that they are designed to analyse and interpret (Hayhoe, 2008b).

Passive exclusion is also the result of systems of classification that have left scientifically defined conditions particularly vulnerable to oversimplified, mythologised hypothecation (Hayhoe, 2012a), much as Popper (1979) felt that all branches of science reduce and oversimplify an understanding of nature. With reference to visual impairment, Western societies classify people who have a range of types and strengths of visual impairments under the single category of visual impairment in scientific and philosophical studies, rather than through individual needs as Warren (1994) proposes. Furthermore, Hayhoe (2003) argues that this has led to societies' classification of what visually impaired people can and cannot do in art education, often characterised according to the traits of a few extreme cases, such as many of those described in psychological and philosophical studies.

Hayhoe (2008b) finds that naive scientific beliefs about visual impairment change over time. For example, attitudes to blindness in 18th- and 19th-century French society as described by Diderot (2001), Jay (1993), and Paulson (1987) tended to exalt impairment, rather than finding that visually impaired people were inadequate. **[AQ: 5]** Thus, a primary feature of the passive exclusion pole in art education is that it looks at the exclusion of individual disabilities, not in terms of vilifying an institutional medical model (Braddock & Parish, 2001), but through examining existing barriers that exclude individuals from the mainstream. Consequently, Candlin (2003) finds that the traditional educational function of the museum is premised on the design of exhibits, which are understood primarily through sight. This has led to the exclusion of visually impaired people, as non-visual perceptions are rarely catered for in this process. Her remedy for this problem is to change attitudes to the design of mainstream museum environments and practices to cater for individual needs.

Similarly, Hayhoe (2000, 2008a) finds that exclusion of visually impaired students from art education in schools and museums is due to inaccurate information about blindness in educational literature and a lack of training of art teachers, particularly in mainstream education. This leads these students to believe that they are incapable of any similar art tasks during later education, even when it means that they know they will not pass important assessments. Thus, a greater awareness of the ability of visually impaired students in art education is also needed, particularly in mainstream schools.

Initial case study findings

Four case studies were featured in the open coding phase. The first was Edi, a retiree and from New York. She was 80 years old, widowed, and finished her formal education at the end of high school. She grew up in Ohio, but moved to New York as a young adult, where she continued to live. She was late blind, after having lost her sight gradually in adulthood, and always had what she called normal experiences of learning art through classes at the Met, which she attended regularly – she was also a former member of the museum. Edi did not use a computer for learning about or viewing art and cited her blindness as a reason for this. Instead, she occasionally asked her friends to find information for her and to search for artworks on the Web.

The second case study was Charles, a retiree from New Jersey. He was 64 years old and educated to postgraduate level. He was born in Jamaica but grew up in Sugar Hill, New York. He moved to New Jersey, close to Manhattan, after he married and still lived there. He became blind in early childhood over a short period of time and was registered blind by the time he completed high school. He had a broad experience of studying art from childhood and discovered that he enjoyed visiting museums at school and then as an undergraduate student in New York. Charles used computers to research and write about history, but not to search for or study artworks. The third case study was Charles' wife, Camilla, who was a retiree. She was 70 years old and studied

educational psychology at university, although she never finished her degree. She was originally from Atlantic City, New Jersey. She was almost totally blind from birth, had very little understanding of visual concepts, and only started visiting museums with Charles in her later years. She had no prior experience of art education which she was not taught at her school for the blind. Camilla used computers for emailing and other forms of communication but not to research artworks – she cited her blindness as a reason for this.

The fourth case study was Glen, a technology professional from Washington DC. He was 42 years old, married, had a first degree in finance and psychology, and was originally from Philadelphia. He had some residual vision and first noticed losing his vision from around the age of 16 years, although he thought that the causes of his impairment developed before this. He was also red–green colour blind – something he says he was born with. He started visiting museums with a girlfriend from university when he was 18 or 19 years, first in Philadelphia, and then at the Met, and then attended the Met every time he visited Manhattan. He was also taught art at school, but at the time it made little impression on him. Glen used computers for work and many other aspects of life, and sometimes researched artworks and museums on the Web. He said that he was happy accessing images – the verbal descriptions of these – through museum sites on the Web.

In terms of the visual and practical role of the museum as primarily perceptual and as a receptacle for art, the findings of all four case studies challenged this idea and concluded that these case studies were more likely to be passively rather than actively excluded from museums, galleries, and monuments. For example, because of their early or relatively early blindness, Camilla, Glen, and Charles' education and experiences were largely tactile in the outside world, and they both relied primarily on this perception over what remained of their vision when younger. However, their experience of museums was largely non-tactile and non-perceptual and they appeared to have relatively limited interest in artworks as perceptually aesthetic objects, but more as narratives and historical artefacts that possessed intellectual and emotional meaning that they enjoyed being in the presence of. These experiences have a bearing on Gombrich's contention that understanding visual artworks was purely the role of visual perception. Thus, their psychological relationship and the cultural capital that they gained increased the emotionally closer he was allowed to get to them. For example, after a verbal imaging of a painting by El Greco, Charles found that he began to empathise with the life of the artist, something that signified developing a higher order of understanding than merely knowing about the artist:

Charles: It's strange, [when El Greco] was described and that was fine and all the different characters that [went into] the painting, but all the time I'm thinking more about the painter himself.

S.H.: Right, the historical background.

Charles: Yes, and how he was able to paint it all just using all of his experiences that he had. That's why, when I mentioned his being steeped in history . . . [and the teacher mentioned] his intellectual prowess. So I was more fascinated with him.

Furthermore, it was observed that the experience of the cultural and social value of the museum was highly important to all four case studies, again questioning Gombrich and Bourdieu's underlying principle that such institutions were mere receptacles and in terms of the poles of exclusion used as a framework in this analysis, their theories suggest a favouring of passive exclusion over active exclusion. For instance, although Glen and Edi had a broad experience of paintings when they had full sight, they stated that it was the Met itself that was important for them to visit. For instance, Edi said that it was more the shows and lectures that

led to her visits than a specific body of artworks. In addition, her continued attendance after losing her sight meant that it held other attractions beyond the exhibits, even though she appeared to revert to Bourdieu's notion of exhibits as aesthetic rather than intellectual objects. For Charles, cultural capital was also not predicated on a desire to develop a taste for artworks through Bourdieu's conception of aesthetic understanding. For him, attendance at the museum and the symbol of a sense of belonging to intellectual historical culture was of paramount importance. In Charles' case, in particular, capital was almost only understood through the lens of history and its social context. It was as if blindness had enhanced access to a different form of Gombrich's notion of *profit* and a chance to attain what Bourdieu referred to as cultural capital in a way that they would not otherwise have had.

However, access to images and descriptions on the Internet did not seem to have affected their relationship with artworks. In these terms, all four case studies again held the view that it was the museum and, in Charles' case in particular, literature that had a higher place in developing knowledge and an emotional relationship with artworks. Only Glen had thought of using the Internet to access images of, or information about, paintings – although all four case studies had access to the Internet through personal use, friends, or family. Edi even contradicted her earlier evidence in this respect, saying that she could not see images on the Internet even though she found that she had enough residual vision to see 'almost everything' on television.

Throughout this open coding phase at the Met, four particular issues of exclusion became apparent (Hayhoe, 2012b). First, although the level of blindness had an effect on the students' understanding of paintings, the age of the visually impaired person, their education, and their exposure to museums at an early age appeared to have a more significant effect. Second, visitors with no visual memory had a completely different understanding of paintings and would often evolve a different narrative of learning about paintings, either for their own historical understanding of political, cultural, and social eras or by developing a more academic relationship with an exhibit. Third, the generational difference between the case studies was significant and the process of ageing led to a more social relationship with the Met's education department. Fourth, none of the older students at the Met wanted to use the Web to learn about paintings, one citing their visual impairment as a reason when they had residual vision and could view paintings and television. **[AQ: 6]**

This analysis also identified three particular themes to be taken forward to the axial coding phase: first, the majority of visitors mostly had early experiences of museums; second, bespoke lessons at the Met were largely booked by older people; third, that older visitors did not want to use the Web to learn about images. Thus, during the axial coding phase, it was decided to follow two lines of enquiry: the first was to confirm these findings with many teachers at the Met, and the second would initially allow older people with early experiences of museum visits to be compared to younger students who had little experience of such visits. During this second phase of data collection and analysis, students in schools for the blind were observed and interviewed.

The following two case studies are from this second line of enquiry in the axial phase and analyse the experiences of final-year students at CSB. As these case studies represented younger students who studied art, it was decided to concentrate the analysis on a mixture of their experiences of physical visits to museums and their access to images on the Web. Even though both case studies are from CSB, these two students were chosen to represent this phase in this article as their data were particularly rich and contained strong descriptions of their educational experiences and relationship with art.

Two case studies of younger students in the education department at CSB

Diego

Diego was a 20-year-old man and in his final year at CSB. He was from Santa Rosa, northern California, and had been resident in the school for 2 years. After graduating, he aspired to enrol in the Hadley Centre's course for assisted living – this is a distance education course based in the United States, and specifically designed for visually impaired people. Subsequently, he hoped to become a forensic ear, nose, and throat technician. To do this, he needed to develop his literacy skills and gain a high school diploma.

In this study, Diego was classified as having Minimal Light Perception and Assimilated Blindness. He was registered blind from birth and used a white cane from childhood, although during the interview he said that he still had a perception of shapes, some forms, and certain colours: 'It is hard for me to see detail. I can see you, like your outline. I can see that you're wearing glasses. But I can't tell if you're smiling or frowning'. He had the same level of impairment since birth and felt that this was fortunate as he could adjust more easily to his circumstances.

Diego remembered attending mainstream schools in California from the age of around 7–18 years and then transferred to CSB – he did not remember having schooling prior to 7. He also did not have much access to support at this stage as there were no specialist teachers in his school: 'No, they didn't teach me Braille. They helped me with screen readers as far as CCTV goes, but that's about it . . . I had enlarged books, so I had really big books'. As a result, he did not graduate from high school at 18 years and transferred to CSB, and from there he attended a community college in Fremont to develop himself academically. Consequently, he felt that he had poor experiences of mainstream schooling, citing a lack of technical and learning support as a reason:

S.H.: So they didn't provide that technology at [public] school?

Diego: No, that's why I didn't do so well.

S.H.: So you didn't have access to computing.

Diego: No. I didn't have the adapted technology. So I actually didn't learn to type until I got here to CSB.

Although his formal art education was limited at public school as he only worked with clay and created simple shades as drawings, Diego felt that he had positive experiences of the visual arts, at school and at home. He also remembered drawing with normal art materials at home and said he came from a background where non-fine art aesthetics were important. He also said that he liked to draw informally, finding paper to make doodles whenever he could. However, it was at CSB that he became fond of visual art as a creative subject.

Diego particularly enjoyed the use of colour and free-form artistic activity at CSB, something that he found allowed him to use materials he was familiar with. In particular, he had been able to develop drawing techniques in his art classes and work with clay, a medium he said that he gained a great deal from because of its tactile qualities and because his instruction was tailored specifically to students who were visually impaired:

I enjoy it more basically because of the teachers who are trained to work with visually impaired students, unlike the other teachers at public schools. They're good teachers but they don't have much experience of working with visually impaired people. So it was a little more difficult sometimes to understand what they were explaining in front of the class . . . but here it works really good.

Analysis of Diego's experiences of web-based images

Diego's early experiences conformed to a notion of passive exclusion. He had visited a museum in San Francisco to view the King Tut exhibition but became frustrated with their touch tours. Despite this, he still held museums in high regard; it was somewhere that he appeared to enjoy primarily as an institution that provided a symbolic form of cultural belonging through his visit to the building: 'I enjoyed more the museum, just actually being there'.

During his visit to the museum, Diego also encountered passive forms of exclusion from the arrangement, environment, and presentation of the exhibits, even during the touch tour that had been prepared for his visually impaired peers because of the standard lighting conditions and the security measures surrounding the exhibits: 'Some [exhibits], they did allow us to touch. But not the ones under the glass. And that was a little difficult, because it was dim and it was under the glass'. On this tour however, Diego was accompanied by a museum teacher who described the historical context to each piece, thus allowing him to develop an intellectual relationship with these materials beyond their ornamentation.

Diego also developed an intellectual understanding of the artworks through accessing images via the Web, which he said he used 'quite a bit', although his respect for the museum as an institution was higher than for their websites; largely because of his impairment, it was not the source or the aesthetic image that was important to the research he conducted but the background information that accompanied it. This allowed him to develop a different relationship with artworks and negotiate many issues of exclusion. Thus, although he had little physical sensory connection to these artworks, he developed a more academically focused, less aesthetic notion of museum exhibitions. Similarly, when he accessed images of paintings during his classes at CSB, he was not always sure whether he was downloading images from museum websites or elsewhere. This did not matter to him, as it was the information content that became essential to his education.

Although Diego found that he was often excluded from information about these images, it was not the cultural or educational barriers that excluded him from perceiving the images. Instead, it was largely the unforeseen problems with accessible technology that were more problematic. For instance, his difficulty with perceiving light and dark colours barred him from using his residual vision with the screen and therefore led to a reliance on verbal descriptions: 'I like to read with a black background with white writing, but when it comes to pictures it makes them look funny'. Thus, despite these passive forms of exclusion, it was again his intellectual interest in art and his technological skills that allowed him to renegotiate and develop an alternative understanding of fine art.

Phoebe

Phoebe was 20 years old and from Alameda, an island just off the coast of Oakland, San Francisco Bay. In the study, she was classified as having Minimal Light Perception and Assimilated Blindness. She had the same level of impairment since the age of 3 months, alongside a related learning difficulty. Her remaining vision allowed her to see things in close proximity and tell colours apart, although she had tunnel vision, could not see anything below and to the right, and had no depth perception: 'If something matches something else it's not going to be noticed'.

Phoebe attended two public schools until the age of 5 or 6 years – she could not remember exactly – then transferred to CSB, where she had been ever since. After graduating from school, she also hoped to study independent living through the Hadley Centre and aspired to attending college or university; although she realised that she would not get a high school diploma from the

local community college that she attended part time: 'I don't know how I'll go, because I would need a high school diploma. And I would like to eventually, maybe'.

Phoebe had been using the Web since the age of around 13 years, primarily for emailing and personal research, and accessed her interface through JAWs – a screen reader that provided an aural representation of the text on screen or translated alternative text from images. However, she found accessing a number of images frustrating as they did not include descriptions. Thus, she said that she enjoyed practising art more than studying the art of others.

Analysis of Phoebe's experiences of museums and paintings

Phoebe's experiences of art at school had been largely positive, and she participated in a full range of exercises. Even though Phoebe was registered blind, it had not diminished her ability to take up drawing as a medium or work with clay and she appeared to have developed an understanding of aesthetics through her early art classes. This understanding was expressed through her love of art later at CSB. In other ways, she would also reinterpret her tasks in art classes to reduce her exclusion and she was initially encouraged in aesthetic activities by members of her family rather than her early mainstream schools: 'My sister, she taught me how to draw and stuff when I was a kid. And I just continued drawing'. This led to her desire to study fine art at a higher level.

Phoebe's museum attendance also conformed to a pattern of passive exclusion, caused by a lack of knowledge of her capacity to study its contents and an absence of desire among her family, teachers, and museum staff to learn more about her family's past rather than a deliberate attempt to keep her from museums. She did not remember attending a museum in person but she had been on the websites of museums and undertaken 'a virtual tour, because it's easier than going there and figuring them out'. Thus, no one had actively denied her the opportunity to learn about artworks or museums, particularly through the Web. However, because of her learning difficulty she could not recall the museums she had virtually toured and did not appear to be aware of the location or structure of the museums she was viewing: 'They're pretty cool, [but] I have no idea. They're just on the internet and I just went through a bunch of them'.

Although museums were not part of her aesthetic experience, Phoebe also renegotiated her understanding of what they stood for and had deference for *the museum* as an institution. For instance, given the opportunity, Phoebe said she would like to visit real museums, know more about the cultural heritage of her family, and showed a strong preference for older artworks and objects. This indicated a strong emotional connection to her non-US heritage:

My grandmother grew up in the Philippines, which I found really interesting, which is really cool too, and so I like just like really old stories, old books. I don't really like anything new, like I mean I do but I don't.

In terms of her use of accessible images via the Web, there also appeared to be a disconnection between Phoebe's actions in learning about art online and her performance of art in class. This again questioned the premise that exclusion is active in this context, as she was again able to renegotiate and take ownership of her relationship with the artworks. Consequently, she often regarded the Web as an information provider, using it mainly for emailing and personal research. For instance, she expressed a liking of 'old things', especially researching the artworks of antiquity with a special interest in conducting Internet research on issues surrounding Greek mythology. Although it was not part of the curriculum at school, she gained an interest in it from her family and conducted this work in her spare time. However, there was also an element of this information provision that provided inclusion in the museum in the same manner to that described by Gombrich's duality of profit and delight and again showed a deep respect for the context of the museum websites containing this

information despite her learning difficulties. For example, she used information about artworks to discern a more intellectual discussion on the detail and significance of the elements of artworks than she would derive from images alone. Thus, it became frustrating for her when virtual tours lacked descriptions of visual content even when she could discern the artwork on screen, as the descriptions provided extra information that could enhance the information content of the artwork beyond a simple aesthetic description:

Phoebe: What I couldn't figure out was if a [totally] blind person were to go on the computer and do a virtual tour, they don't tell you what the picture looks like. They won't describe it, because on the websites now they sort of tell you what is going on in the picture. And the ones I've looked at before they would just skip the picture altogether and just go on and tell you who made it . . . and then like when it was made and stuff.

S.H.: What did you like about the description?

Phoebe: They told me more, because I could like see it; but it sort of told me more that I was not noticing. They like described the background, what was in the picture and then I could get an idea of what it was supposed to look like.

Combined analysis

Both students tended to have scant experience of visiting museums in person although this exclusion appeared to be more related to passive rather than active exclusion – this was common among all the CSB students that were interviewed and it appeared that this was not uncommon for many mainstream schools in California – as it was a limited sample, it was unknown whether this was because of the lack of school visits in the state, the ages of the students, their social backgrounds, their visual impairments, or all four reasons, as the experiences and early education of all the students interviewed in CSB and a further study at Perkins' School for the Blind, Massachusetts, appeared to differ significantly. However, in common with the older visitors to the Met, Phoebe and Diego both renegotiated their inclusion in the visual culture of artworks on museum website environments by disconnecting the non-perceptual qualities of art from its aesthetic qualities, which they found more accessible because of the lack of visual content of their Web research and the quality of the verbal descriptions where they appeared. In this respect, their approach to their impairments appeared to challenge Bourdieu and Gombrich's argument that the museum was a simple receptacle of art to provide delight and profit through primarily visual and aesthetic means rather than a cultural symbol that these students developed a symbolic emotional relationship with, and somewhere that Phoebe and Diego could find a sense of place in relation to the wider world and their own cultural heritage.

Similarly, like the earlier visitors to the Met, despite their lack of experience in this realm both Diego and Phoebe had a reverential view of the physical museum as an institution and both stated that they would like to visit or revisit museums. Diego in particular emphasised that even though he could not access all the pieces he had hoped to, he enjoyed being *a part* of the museum. For him, it seemed the mere fact of attendance and proximity to real artworks – a further advantage of being allowed to handle them – allowed him to develop his status as an educational visitor, an element of the art that contributed to his cultural capital. The same was true of Phoebe, and she particularly emphasised a desire for more personal development through the study of family history, suggesting that her cultural capital was also related to a sense of her ancestral identity.

Also appearing to contradict the theories of active exclusion, both students found that their experiences were enhanced by going beyond purely perceptual interpretations of the artworks, as their primary frame of reference on the Web was the descriptions rather than perception of images.

Given Bourdieu's interpretation that this is only a privilege usually given to intellectual elite, their learning thus focused on non-aesthetic qualities rather than what he would have suggested was a shallower aesthetic interpretations of the works they were researching, as many sighted students were encouraged to do. This allowed them to define artworks in terms of their historical and intellectual importance, deepening their cultural capital, and suggested that the role of the institution or environment displaying artworks and its role in the relationship that people develop with cultural symbols is an extra layer or dimension to the viewing of art that has previously been neglected by arts theorists and anthropologists of culture.

Conclusion

Although the number of visitors researched in this study was too limited to be able to make generalisations about the greater visually impaired population, even in the few instances discussed above, there is enough evidence to question the nature of a number of contemporary theories of exclusion from the visual arts. It also appears that the proximity and the cultural symbolism of the museum itself is important to the viewing of art and indicates that the issues surrounding cultural education of people with visual impairments in museums are far more complicated than some traditional literature suggests.

Furthermore, the notion that exclusion from museums is primarily through their privileging of vision, as was argued by Gombrich and Bourdieu in their contention that the power of art is in its power to provide aesthetic, cultural, and intellectual capital and profit through the perceptual properties of artworks, is not borne out in the case studies. Even though these students were passively excluded from the building, the museum as an institution remained as important as the artworks inside it to many of these people. Thus, in these cases *the museum* solely as a place of education represents a continuously potent symbol of cultural capital greater than the sum of its individual elements – either as a gymnasium for the eyes or as a place of profit and delight – whether in hyperspace or in real space. These findings coincide with Candlin's (2003) on the need to change the mainstream culture of museums in order to open up the transmission of artworks to a visually impaired population. This change in museums' attitudes must be conducted on an individual basis in accordance with the cultural, social, emotional, and intellectual needs of all museum visitors.

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