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Introducing Visual Methods

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Abstract

Over the last two decades there has been a global surge in interest in visual research methods. Word and number-based researchers are coming to realise there is considerable potential for gaining knowledge if image-based methodologies are adopted. This paper provides and overview of approaches and perspectives broken down into five easily digested sections to be consumed wholly or in part: *early visual research*; *researcher created data*; *respondent created data*; *research design*; and *visual ethics*. The paper will be of particular interest to qualitative social scientists new to visual methods or those with little experience of their application. A wide range of carefully selected references and resources are included to provide the reader with further in-depth insights.

Introducing Visual Methods

1. Introduction

This paper is written for social scientists with no experience of visual methods or who have limited experience and would like to know more. We have opted for a 'one stop shop' approach despite the inherent dangers of superficiality, which this strategy brings. Our objective in providing an overview is to provide researchers with a 'shop window' full of visual methods enabling a degree of selectivity to take place to meet personal and disciplinary needs.

One question to ask is 'why is it timely for social scientists to consider adopting visual methods?' To which we would answer (somewhat cryptically) 'there are many reasons'. A striking phenomenon of visual research two decades ago was its invisibility. Although social science privileges word and numbers-based approaches, visual modes are becoming more prevalent. Although it is now becoming somewhat of a cliché, there is a nonetheless a general awakening to the ubiquity of imagery and visual culture in contemporary lives, which necessitates the development of visually orientated theoretical frameworks coupled with the application of rigorous and complementary visual research methods. Consequently there is now a bourgeoning interest in visual methods across the disciplines, reflecting a broad surge in interest in approaches that promise enhanced analytical insights of everyday social worlds. It is our view that few critically reflexive researchers can doubt the significant potential contribution visual methods can make, methodologically, theoretically and substantively, to contemporary social science.

The propensity qualitative and quantitative researchers' display to hurriedly translate empirical observations into words and numbers, reflecting an academic community focused resolutely on producing knowledge efficiently rather than effectively, is increasingly in question. An international 'sea change' in methodology is taking place in response to urgent, challenging and complex global research questions, which we would argue, has led to a growing interest in 'beyond text' into sensory research methods across disciplines. Visual methods offer a range of alternative, diverse and creative possibilities that will expand and support the shifting orientation of social science research and ultimately advance knowledge. Simply put visual methods can: provide an alternative to the hegemony of a word-and-number based academy; slow down observation and encourage deeper and more effective reflection on all things visual and visualisable; and with it enhance our understanding of sensory embodiment and communication, and hence reflect more fully the diversity of human experiences.

The aim of this paper is to provide social scientists (who come with different backgrounds and from different disciplines) with little experience of visual methods, with sufficient information to enable them to conduct visual research and to apply visual methods. We have attempted to balance breadth with depth by covering what we consider to be essential themes, by referencing only key texts, and by writing in a style that is both accessible and

informative. In attempting to cover as much methodological ground as possible we have been very selective and hence feel it necessary to issue a 'health warning': there are many excellent ways of undertaking visual research and applying visual methods and what is prescribed here represents just one. Our advice is to ignore or at the very least treat with caution any visual researchers who claim theirs is the 'only', 'proper', or 'best' way.

Deciding how to organise this paper was difficult since as practitioners we recognise that images can play an integral role in the research process and be useful in a number of ways, for example:

- Images can be produced by participants as data.
- Found or existing images can be used as data or springboards for theorizing.
- Images and objects are useful to elicit or provoke other data.
- Images can be used for feedback and documentation of the research process
- Images are useful as a mode of interpretation and/or representation.

(Weber, 2008, p 47)

However, we have opted for a pragmatic structure and whilst recognising they are artificial devices, we do anticipate that readers will come to develop their own framework in making sense of overarching nature of visual research methods. Six themes are discussed:

- *Early visual research* (visual researchers today are the sum of past practices – good and bad – and its useful to be aware of them);
- *Researcher-created data* (empirical researchers typically look/perceive and record/ document their observations);
- *Respondent-created data* (participatory research is growing in importance and visual methods potentially enhance respondents' contributions);
- *Visual Methods and Research Design* (overall structure and orientation of study)
- *The visual as representation* (of representing data and findings but with a visual orientation);
- *Visual ethics in context* (a difficult but important issue that requires more attention from visual researchers).

2. Early Visual Research

Writing about history is always an arbitrary and selective process and our intention here is not to provide a detailed genealogy of visual methodology in the social sciences, but to highlight what can be considered some salient developments and issues, many of which we shall return to in subsequent sections. For the sake of brevity we will contain our discussion to sociology and anthropology and to still and moving modes of image production.

Although it is somewhat of a truism, observation has long played a central role in data collection for researchers from all disciplines and they have rapidly, perhaps too rapidly, converted those observations into sketches, diagrams, signs, words, codes and numbers. It can be argued that the emergence of systematic empirical studies in the late Renaissance

was the beginning of visual research but technology has always been a key factor in step changes in visual methods and hence its influence cannot be ignored. Innovations like the camera obscura, photography, new paint pigments, microscopes, telescopes, and printing processes have all enhanced our ability to 'see' and 'represent' and change our perceptions about and interactions with the material world.

Like photography, sociology and anthropology were established in the middle of the nineteenth century and through the principle of reciprocity visual sociology and visual anthropology emerged. However, the relationship between sociology, anthropology and imagery has always proved to be problematic. Whilst it is clear that visual anthropology and to a lesser extent visual sociology played a major role in shaping early empirical visual research many of the weaknesses and strengths of image-based research were evident from the beginning. Unsurprisingly, as photography became the principal mode of recording and focus of analysis, notions of what constitutes realism (whether or not the images produced were an accurate and unbiased representation) was a ubiquitous and knotty issue within visual studies of the time. Even at this early stage in the evolution of visual research, there was an understanding that the type of media and mode of production of visual data are important in determining the meaning we ascribe to imagery. In short, how researchers 'make' an image (still or moving images, drawings, paintings, diagrams and so on) and the kinds of technology used to produce them, are intrinsic to the interpretations of the phenomena they are intended to 'represent'.

It would be safe to say that visual sociology did not get off to a promising start and although at the turn of the 20th century the *American Journal of Sociology* included photographs, their inclusion tended to be politically motivated rather than based on notions of scholarship or veracity. Early critics of the photography-as-data approach argued that researchers generally lacked methodological rigour and used photographs either as mere illustration or as pseudo support for ideological statements. Statz (1979) characterised these beginnings as 'muckraking' and viewed them as undermining the scientific integrity of visual sociology. Consequently, during most of the 20th century little worthwhile visual sociology appeared until the 1970s and the work of Collier (1967; updated to Collier and Collier,1986) Becker (1974) Goffman (1979) and Wagner (1979). These studies by visual sociologists initiated a move away from traditional modes of observational studies to a more 'seeing' and ultimately a 'perceiving' form of visual sociology.

Photography remained an important medium for visual researchers, but practitioners were now becoming more critical and reflexive about what and how they were doing their work. Becker (1974) stressed the importance of theory guiding image creation and addressed the relationship between the visual and trustworthiness. Goffman's *Gender Advertisements* (1979) was a rigorous and penetrating analysis that stimulated other visual sociologists into taking into account what is commonly referred to as 'found' imagery. Goffman's study signalled a general paradigm shift and a move away from researcher generated images towards a micro-analysis of everyday objects and social interactions hence a more 'seeing' sociology focused on observing culture and social life. Whist it is widely accepted that photographs are polysemous or as Goldstein (2007) claims *All Photos Lie,* it is left to Wagner (2001; 2007) and Harper (1998) to constructively bridge the epistemological gap

between visual sociology's application of documentary photography and contemporary studies of visual culture.

In stark contrast to visual sociology early visual anthropology faired much better. As late 19th century anthropologists gradually ventured out of their universities to engage in fieldwork, they used photography, amongst other techniques, to support work on what they saw as the classification of 'human races' based on dubious scientific principles. As Edwards (1992) has remarked, photography for these anthropologists was perceived as a way of capturing 'truth' as well as constituting an 'accurate' representation of reality. An early example of this kind of work is Franz Boas's 1894 study of people living in the North Pacific where a still photographer was employed to document rituals and objects such as masks. Ruby (1980) suggests it was Boas's studies which 'normalised' picture-taking by anthropologists. Another early protagonist of the 'photo-fieldwork' approach was Bronislaw Malinowski (1922) whose studies were based in Papua New Guinea. Malinowski worked closely with indigenous people over an extended period and produced early examples of what we would now recognise as 'realist ethnography'. He was also more innovative in terms of camera work; using still photography as an adjunct to his diary he recorded panoramic, close-up, middle-distance images, objects and events from different angles, as well as contextual images (Ball and Smith, 1992). Nonetheless, the images produced were used to illustrate his text rather than to generate theoretical insights. Paralleling the use of photography with moving imagery and operating at roughly the same time was Alfred Haddon and his Torres Straits expedition of 1898. Haddon used film to record events and rituals (sometimes via reconstructions) deemed important by the research team. Part of the motivation for using moving images was to record fast disappearing 'exotic cultures' in what is termed 'salvage anthropology' (Banks, 1998).

Post-1920 moving images and ethnographic film in particular were viewed as a useful tool valued for their documentary qualities. Film as a medium subsequently became more central to visual anthropology as a result of advances in technology and a shift in visual paradigm from still to moving images. For many visual researchers ethnographic film has come to epitomise and symbolise what constitutes visual anthropology. Despite the greater degree of respectability accorded to the visual in anthropology, the issue of trustworthiness (as we would describe it in contemporary terms) still remained. Documenting cultures with still and moving images during this early period was not as truthful or accurate as assumed at the time. The documentary and realist traditions evident in early visual research traded on the general misconception that the photographs and films were not only an accurate rendition but 'truthful'. However, mock-ups, add-ons, post event construction, and multiple layers of deception were only the tip of the mistruth iceberg. Manipulation of material prior to, during or post event was common, but rarely seen as problematic. Photographic objectivity, or what Sekula (1975) called 'the myth of photographic truth' was accepted at the turn of the century and prior to the 1920s, undermined the trustworthiness of visual studies in the eyes of the majority of social scientists around the 1930s onwards. The apparent ease with which photographs (like other forms of data) may be manipulated, combined with limited awareness of the importance of contextual information, further weakened the case for researcher generated images (Harper, 1987; 1993). However, despite these concerns the use of imagery evolved in concert with advances in epistemological

thinking, methodology and technology, with still photography and film taking different paths from the 1930s onwards. Still photography, mainly due to its suspect trustworthiness, was rarely included in field methods and only re-emerged through partial rehabilitation in the 1960s. However, an important exception to this and a key referential text in the history of visual research, was the study 'Balinese Character' produced by Bateson and Mead (1942) following two years of fieldwork. Their approach advocated a visual agenda based on the premise that words alone were insufficient to reveal and communicate Balinese culture. Equally significant was the manner in which photographs were incorporated into their book. 759 images (from a total of 25,000 taken in the field not forgetting the 22,000 feet of cine film they also took) were placed on one side of the page and a corresponding written analysis appeared on the other. The study is a 'landmark' in the evolution of visual studies but has inevitably become outdated as ideas on generating theory, engagement with participants and visual ethics have advanced. However, the use of moving images as a 'visual record' became less important in comparison with its capacity to represent anthropological concepts (Henley, 1998). As such, film as a 'neutral' agent which recorded predetermined meanings set by the researcher, gave way to engagement in and with participant's lives and the development emergent themes. A very early example of this form of ethnographic documentary is Robert Flaherty's seminal 'Nanook of the North' (1921) which was produced following lengthy immersion in the field and engagement with the prime protagonist 'Nanook'. John Grierson, a Scottish film-maker, pioneered the documentary realism genre combining music and narrative in an artistic presentation of 'factual' film. Clearly, there were inherent dangers in this body of work. Grierson's socialist leanings, the recognition of film as a popular medium and therefore a tool of public services and propaganda, added additional layers of potential bias.

Three general trends in contemporary visual research became apparent in the 1980s. The first was an incline towards 'dispersed' or multiple representations in anthropology. The second was a drift from 'researcher created' images to the study of meanings of 'researcher found' images including those generated by empirically orientated visual researchers. Finally, contemporary anthropological and sociological researchers moved away from formal analytical approaches such as structuralism to adopt a perspective that focused on how visual materials are perceived and experienced. Becker (1974, 1975) and Goffman (1979) had canvassed widely for an approach that took account of contextual and stylistic elements of interpreting and analysing images. However, the wider adoption in the 1980s of postmodernist, critical theory and cultural studies perspectives led to new conceptualisations of what constitutes knowledge of everyday visual imagery. The approaches they embraced were interdisciplinary and occasionally more explicitly political than those advocated by researchers working within traditional singular disciplines. Those engaged in cultural studies focus on culture as an everyday experience and explore how it is produced and consumed. Cultural studies developed a new field of study of image analysis referred to as 'visual culture'. Visual culture explores the multiple effects of how people experience visual features differently. The approach perceives visual representations as a reflection of culture, providing an insight into, for example, gender communication, race and class. Another aspect is the context of viewing imagery and the impact of viewing, spawning new terms such as 'the gaze' and 'spectatorship' to complement visual anthropologists' interest in 'audience' studies. In emphasising the study of processes rather

than the image in isolation cultural studies researchers elected to employ semiology (or semiotics) which literally means 'the study of signs' as its prime analytic tool (see Chandler, 2002). From the 1980s onwards an intellectual tension existed between those who read 'found images' (cultural studies, visual culture) and social scientists who created images (visual sociologists and visual ethnographers) as Harper and Lenman (visual sociologists) explain:

> While cultural studies has resurrected semiotics, its relationship with the photographic image remains problematical. All visual traces of the world (many are photos, and many are recorded via photographs) are treated as texts embodying messages about politics and class relationship. While this represents a welcome infusion of theory into the study of images, it also reduces the image to a means by which ideas are communicated rather than a basis of discovery.

http://www.answers.com/topic/sociology-and-photography (accessed June, 2008)

In summary, contemporary visual studies, as with all other approaches to research, are not without their critics. Inter-disciplinary studies, a key element of cultural studies and contemporary social science research, have the advantage of an interchange of perspective, ideas, methodologies and theoretical frameworks. However, there is a belief amongst some writers and researchers that multi-disciplinary research, particularly by groups combining concepts from various disciplines alien to their usual knowledge base, too often neither reflects concepts accurately nor the complexity involved in juxtaposing ideas from different paradigms. Traditionally orientated visual disciplines (anthropology, sociology, psychology, history, geography) have adopted elements of a cultural studies approach whilst retaining their orthodox disciplinary framework. At the same time, cultural studies workers have began adopting techniques and methods devised and developed by empirical visual researchers. The interplay between perspectives and techniques is potentially rewarding for visual studies.

3. Researcher-Created Visual Data

Albeit somewhat of a truism, observation has long played a central role for researchers from all disciplines and they have converted those visual perceptions into sketches, diagrams, signs, words, codes and numbers. The close observations of the sky at night, apples falling from trees and of animal life in the wild, were a prelude to important scientific discoveries converted into intellectual and cultural capital. It can be argued that the emergence of systematic empirical studies was the beginning of visual research. However, technology has also been a key factor in its evolution. Although innovations like new paint pigments, microscopes, telescopes and printing processes enhanced naturalists' ability to 'see', document and represent as well as to change perceptions about the material world, it was the birth of photography in 1839 which marked the beginning of modern visual research. Unsurprisingly, still and moving photography became the principal mode of documentation, representation and focus of analysis in visual sociology and visual anthropology from around 1900 until the mid-1960s. Much visual research undertaken

during this period was unhindered by notions of what constituted realism i.e. whether or not the images produced were unequivocally an accurate and unbiased representation. The belief that anthropometric photography (Edwards, 2001) and documentary film 'captured' reality was typical and ubiquitous throughout early visual research. During this time, the analytical focus was on the internal narrative or story (essentially a researcher-centred understanding of the content of an image). Latterly, attention of visual researchers has broadened out to include the external narrative i.e. the broader social context in which imagery are created and constructed by combining expert (researcher) and lay (participant) insights and meanings.

Prior to the 1960s, numbers-based research representing positivism in all its guises and word-based research characterised by the interpretive and symbolic interactive approaches was predominant. Hence, visual sociology as a sub-discipline did not exist until the mid-1960s and visual anthropology functioned essentially as visual records, documentary film, teaching devices, or as mere illustration. However, after the mid-1960s visual anthropology, and visual sociology, in parallel with cultural and critical studies, became more reflexive but separate entities with interchanges in approaches emerging in the mid-1990s. Interestingly, with the advent of digital still and video cameras and software for organising and analysing imagery, researcher created data remerged in both positivist and interpretative forms.

3.1 The Positivist-Interpretivist Continuum

Researcher-created visual data within the social sciences, whilst associated with the narrative tradition, is increasingly linked to realist approaches and more akin to positivist traditions and philosophical axioms. The resultant data and evidence are commonly viewed as lacking a significant reflexive dimension. However, to be fair positivistic researchers have always championed reflexivity in terms of technique by paying close attention to procedural reactivity and transparency (for example through explicit instrument calibration and explanation of measures used) and more recently have accentuated personal reactivity. Conversely, the interpretivist position in general terms is marked by fervent phenomenological introspection underpinned by ontological idealism and epistemological relativism. However, such positivist/interpretivist polarity and advocacy is not constructive for the research community since there are many instances where mixed method designs require an amalgamation of their strengths (as well as strategic methodological combinations) in order to answer important and complex research questions. It makes epistemological sense to be explicit about how, within a research process, researchers 'create' an image (still or moving photography, drawings, paintings, diagrams and so on) and what kinds of technology are used to produce them. One of the best ways of understanding the different reflexive positions of positivist objectivity and interpretivist subjectivity in researcher-created visual data is provided by Wagner (2001, p7) who views the approaches as reflecting 'two abiding ambiguities':

> The first refers to how an image or artefact can and should be read – as an explicit, precise, and matter-of-fact communication or as a polysemic and ambiguous social and cultural artefact. The second ambiguity refers to how images in general can and should be used in social inquiry – as information–rich data for extending scientific

investigations or as evocative artefacts for challenging or stepping away from a science too narrowly conceived.

It is clear that a key activity of all visually orientated social scientists involved in the fieldwork documentation process is dependent on exploring the dynamic relationship between how imagery are read and how they are to be used. In this section we will assume that positivist and interpretative approaches to visual research, although adopting differing reflexive positions, can each play a legitimate and worthwhile role in social science research. We will explore this position by way of four examples. The first example, Rieger's work (1996), exemplifies a sound documentary empiricist approach which stresses internal comparative narrative across different visual data sets. The second example, Heath and Hindmarsh's study (2002), also emphasises a researcher's internal narrative but in this case accentuating an ethnomethodological stance and detailed reading of video data. We will then juxtapose these empiricist examples with two approaches that adopt a more interpretive perspective to researcher created visual data: The Ax Fight by Asch and Chagnon (1975); and Caldarola (1985) - a documentary photographer who conducted fieldwork.

3.2 Empirically framed researcher-created visual data

Rieger's (1996) account provides a good example of thoughtful realist scientific practice in his documenting of social change using 'systematic visual measurement' (ibid, p 5). To do this he uses three main approaches: repeat photographs of the same site over time; repeat photographs of participants in the change process; and the rephotographing activities and processes. These visual methods combine to resemble a form of method triangulation commonly found in qualitative enquiry, yet as Rieger acknowledges, the overall orientation of the study parallels a quantitative methodology. This is reflected in the detailed discussions of each of the methods he adopted. With Rieger, the internal narrative is rigorously examined for sociological significance by indirect measures that include physical changes: for example in the size and geographical layout juxtaposed with non-material variables such as employment statistics and social practices. Rieger's close reading of the content of the images reflects his predilection towards empirical orthodoxy which is mirrored in his beliefs and practices:

> The challenge for the visual sociologist is to find the indicators of change. From this standpoint the visual approach differs from other approaches only in the fact that visual indicators are used (in addition usually, to other, more common ones) to help form a basis for analysis and interpretation.

> Photography is well-suited to the study of social change because of its capacity to document a scene with far greater speed and completeness than could ever be accomplished by a human observer taking notes. Visual changes can be very subtle or so complex, that they are virtually impossible to document adequately without the use of a camera, which permits 'freezing' a scene in extraordinary detail. Furthermore, photography can be used in many circumstances in a relatively unobtrusive manner, compared to more conventional approaches.

the usefulness of visual evidence depends on the sociologist's skill in drawing data from the images that can form the basis of interpretations about what is happening socially (all p 6).

Nonetheless, Rieger's realist scientific practices are reliable and, being explicitly stated, conform to scientific conventions that are recognised and accepted by different research communities. Moreover, his approach is broadly accepting of the worthwhileness of mixed visual methodologies and demonstrates openness to alternative forms of evidence - a facet often missing in realist/interpretivist dialogue – which marks it out as an early attempt at bridge-building between differing visual epistemologies. Contemporary interpretive visual methodologists may baulk at the study's lack of external narrative, but should, we believe, respect the rigour and robustness born of his focused research questions, awareness of the importance of multiple methods and the acceptance of the study's limitations. An unhelpful aspect of contemporary interpretative visual method theorists is a readiness to apply the terms 'positivist' and 'empiricist' as expressions of negativity and disdain.

Between 1980 and 2000 statistical and survey approaches within sociology were partially out of vogue. This trend was reflected in visual studies of the time and especially so in ethnography where researcher-created representations, in relation to both internal and external narratives, were considered to be flawed and undermined by personal and procedural bias. The re-emergence and increasing popularity of researchers analysing the visual data they have created in relation to both internal and external narratives is the result of a convergence of practices from diverse sources. One obvious reason for the change was the perceived general ease of collecting and sharing different forms of digital data. As a direct response to the general surge of interest in collecting, storing, organising, exchanging and analysing digital data, the ESRC (Economic and Social Research Council) established NCeSS (The National Centre for e-Social Science) with a view to developing effective software and improve practices in sharing and interpreting digitised data. A second reason for changing practices was the availability of small, cheap, light, and easy-to-use digital still and video cameras which made photo-video capture relatively straightforward for a broad spectrum of social scientists. The ease by which digital visual data are collected, stored, shared, exchanged and used for secondary analysis led to an increase in interdisciplinary and international collaboration. A third reason was the willingness of documentary photographers (for example Cole, 1997) and video-based researchers (see Goldman-Segall, 1996) to embrace issues of personal and procedural reflexivity and acknowledge diverse ways of viewing visual data (different audiences and viewing positions other than the researcher's). In response to the growing need for organising and analysing digitised visual data, CAQDAS (Computer-Assisted Qualitative Data Analysis Software) such as ATLASti, NVivo 8, Transana and Observer XT (Noldus)[1], which log, search, organize, categorize, tag and annotates textual and visual data, became widely used (Lewins and Silver, 2007). As a consequence, the ESRC's NCRM (National Centre for Research Methods) and RDI (Researcher Development Initiative) further developed software for analysing digital data and provided nationwide training courses in their application. Furthermore, the rehabilitation of quantitative and positivist approaches to visual research was signalled by the emergence of major theoretical, methodological and technological texts on video-as-data (Goldman, Pea, Barron, Derry; 2007) as well as

specialist technology-focused texts such as eye tracking (Duchowski, 2003; Tai, et al) and specialist topics such as content analysis of mass media (Bell, 2001).

Ethnographers, particularly ethnomethodologists, through meticulous observation and examination of everyday communication, are typical of social scientists engaged in collecting, analysing and sharing digitised visual data. Heath and Hindmarsh (2002; 1998) for example, who are members of MiMeG[2] (a node of NCeSS), used video to analyse doctor-patient interaction. They believe that in the past sociologically informed ethnography failed to:

> get to grips with the practical and concerted accomplishment of work - that is to examine and explicate the interactional and contingent character of practice and action. (p 5)

Hence Heath and Hindmarsh have moved to incorporate visual data to enrich understandings of interpersonal communication by combining content analysis of linguistic information, the communicative use and role of material culture, with proxemic and kinaesthetic data[3]. The video camera is static and with the lens set at a sufficiently wide angle to facilitate situated close reading of interpersonal communication and the role of objects:

> For those with an interest in the material settings in which action and interaction arises, video recordings provide researchers with the opportunity to analyze the emerging characteristics of those ecologies. We can for example see people writing documents, manipulating objects, using artifacts such as telephones, computers, fax machines and the like; we can also recover changes on screens such as computer or television monitors, additions to records, modifications to plans, and the like. Video recordings therefore provide us with a resource with which to analyze 'situated' action; as it emerges within its ordinary ecologies. (Page 9)

Interestingly, no general consensus or orthography for transcribing visual data or material culture, other than ad hoc or improvised solutions, are available to ethnomethodologists so Heath and Hindmarsh adopted one based on their past practice. They provide an example of a 'map' (their term) within the text of their paper:

participants' conduct horizontally, with a dashes capturing the length of silences and pauses, one tenth of a second indicated by one dash. ... example. It is a version of one of the or ... the fragment under discussion. The transcript presents the ... and display
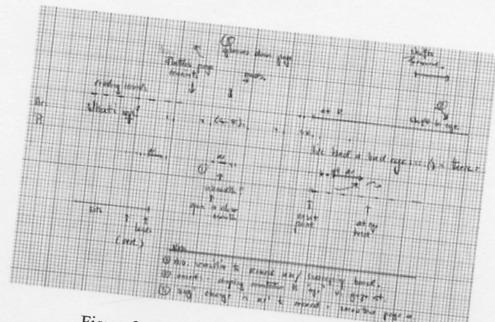

Figure 2: Original data map for Fragment 1

e more detailed transcriptions of a fragment are simply devices to enable the rcher to identify particular actions and to preserve a rough ... at some particular stage of th...

Figure 1: Annotation of visual data within ethnomethodology

'Mapping' exercises, (mapping is another aspect of researcher created data) are commonly applied to cultural inventories (Heath and Cleaver, 2004) but are also used to organise ideas (see for example Prosser, 2007). However, this case mapping is used to illustrate their transcription process as:

> devices to enable the researcher to identify particular actions and to preserve a rough record of what has been found at some particular stage of the analysis. They are not designed to be read or used by others, or of course to provide a literal or true characterization of the events. (ibid, p 21)

Unfortunately, the map is difficult to read and follow (see Figure 1). This is a pity since the 'map' itself would be an intriguing document to visual researchers interested in notation and inscription (for example performance studies, mind mapping etc) and suggests that Hindmarsh and Heath are emphasizing clear textual communication of their research process over the importance of visual methods that produce information-rich visual data, and underplaying the significance of visual culture in their work.

3.3 Interpretivist-framed researcher-created visual data

In the beginning the scientific credentials of photography were based on objectivity and accuracy of representation. Yet from the beginning, photographs, even photographs dressed up as science, were viewed as possessing a narrow version of a particular kind of reality. Put simply, at the outset the opportunities for image manipulation were known to be great and today there exists a widely accepted and clearly articulated view that 'all photos lie' (Goldstein, 2007). Empirical visual methods and visual ethnography have been perceived as a 'realist's tale' (Harper, 1998, p 27) and the use of researcher-created photographs by ethnographers and sociologists in particular was criticised by protagonists of cultural studies and critical theory (see, for example, Ball and Smith, 1992; Emmison and Smith, 2000). Film and video taken by anthropologists and used as evidence was also viewed as flawed. The well known film The Ax Fight (1975) made by Asch (an ethnographic film maker) and Chagnon (an anthropologist) depicting a fight within the Yanomamo people of Venezuela, is a case in point. Winston (1998, p 66) whilst not questioning Chagnon's interpretation and film commentary of events, is dubious of the film's role in terms of providing rigorous evidence in support of Chagnon's claims:

> The problem with The Ax Fight is not Chagnon's commentary but the fact that he is relying on the scientific heritage of the camera to make a strong claim – a very strong claim – that he is presenting evidence of the real world. However, the claim is built on the sands of inference rather than the rock of objectivity. To make sense of the images Chagnon takes what Umberto Eco might call 'an inferential walk' and comes up with a monological account of the data. The ability of the material as evidence to sustain such an account is never questioned.

For Winston it is Chagnon's emphasis on his preferred reading of the internal narrative of The Ax Fight, the lack of thought given to alternative readings, that little information with regards to the reflexivity of the context of making is provided, which coupled with the lack of consideration given to its external narrative, he believes, is the film's undoing. Winston is questioning Chagnon's presentation of video as prima facia evidence for his interpretation of events. There is an assumption on Chagnon's part that his visual method (film documentation of the event) was a direct and somehow uncontroversial link between epistemology, methodology and theory - it wasn't.

At the core of Winston's concerns is striking the right balance between the internal and external narrative of researcher-created visual data. The exaggerated divide between positivism and interpretivism is long standing and deeply ingrained in discourse on non-visual research methods. However, there is currently a strong interest across disciplines in visual methods within a 'participant-generated visual data' approach (as apposed to researcher-created visual data) where participants' meanings are given prominence. Whilst this is generally positive, in that it empowers respondents and provides insightful data, it also acts to reinforce the rhetoric that divides visual positivism and visual interpretivism. Of course this unhelpful divide is not a new phenomenon. Collier's classic text Visual Anthropology: Photography as a Research Method (1967) is identified in the literature as being premised on realist assumptions and systematic in approach including content analysis of photographs of cultural inventories (both considered positivist attributes).

Fortunately such 'pigeon-holing' has not deterred a minority but important group of contemporary interpretive visual researchers from adopting Collier's cultural inventory of family possessions as a model for their own work (see 'Material World' by Menzel, 1994; and 'Biographical Objects', by Hoskins, 1998). At about the same time as Collier produced his text, Becker (1974) was discussing the role of documentary photography in fieldwork emphasising the importance of personal and procedural reflexivity and playing down the significance of the methodical strategy championed by Collier. Both approaches have much to offer and neither author suggests a bipolar - 'this way not that way' - visual epistemology was generally a good thing. At the present time, word-and-number based mixed methods approaches (see Brannen, 2005) which also necessitate acceptance of mixed epistemologies, have many advocates and offer considerable advantages to flexible researchers especially when difficult and complex research questions are being asked. There are no sound reasons not to combine positivist empirical visual methods with interpretive visual methods when the circumstances warrant a mixed-methods approach.

3.4 Image-making in practice

Empirically orientated visual researchers have absorbed ideas stemming from cultural studies and adopted more thoughtful approaches in their image making practices. Documentary photographers involved in fieldwork are increasingly recording personal and procedural reflexivity, usually in a field diary, as a way of building trustworthiness into their empirical data. Caldarola (1985) for example, grounded in his own practice as a photographer, adopted a more self-conscious approach when engaged in anthropological fieldwork in Indonesia. He was a profuse recorder of the process of photographic documentation and recounted in his diary the specific context in which the images were taken, reflected on the significance or meanings of the photograph(s), and described the social relationship between the image maker and the subject(s) of an image. Caldarola avoided making strong claims for his photographs without additional information (he was an advocate of photo-elicitation) and the tendency to compress what was before him into a preordained or post-conceived theory or behaviourist laws. Nonetheless, insightful and useful diary notes, although helpful to others in assessing the significance and limitations of the photographs as evidence, do not necessarily make their contribution more empirically sound.

Early visual sociologists who to begin with did not have the luxury of visual methodology textbooks and exemplars improved their methods as they went along and in doing so enriched visual research. Harper (2001), driven by an enduring interest in an agricultural community, experimented, revised and adapted visual methods to meet his changing needs. His study, undertaken over two decades, illustrates how 'found', 'researcher created' and 'respondent generated' visual data can work alongside observation, in-depth interviews, and survey research methods to provide a compelling study of the ecology and sociology of a farming community. The title of the culmination of his studies - 'Changing Works' - has multiple meanings but one could be that visual methods change and their relationship to non-visual methods needs to change too. Suchar (2004) is another example of an early visual sociologist who conducted longitudinal qualitative studies. He focused on city gentrification and combined documentary photography, systematic photographic inventory, ethnographic fieldwork, grounded theory, shooting scripts, analysis of detailed field-notes,

and systematic coding over many years (1988, 1997, 2004), demonstrating the importance of rigour and refinement of a sound approach over change for change's sake. Gold (2007) is another very experienced visual sociologist who uses photography in many ways in his studies of immigrant and ethnic communities. Additionally he places a high value on researcher-created visual data as a way of 'gaining orientation' and forcing fieldworkers to engage and empathise with participants:

> I have found that the need to create photographs in research settings can provide a corrective to academic distancing by demanding that researchers get involved with the people and settings that are the objects of study to a degree that exceeds what is generally applied in other methods.
> (Gold, 2007, p 145)

The importance of close engagement and adopting a reflexive approach to researcher created visual data is also a pivotal issue for both visual sociologists (Harper, 1998; Suchar, 2004; Grady, 2004; Knowles and Sweetman, 2004; Stanczak, 2007) and visual anthropologists (Banks, 2001 and 2007; Pink, 2005). However, it is Wagner (2001, 2007), an educational researcher, who provides an insightful, encompassing, balanced and reflective comments on the strengths, limitations and guiding principals for prospective visual documentarists. Many visual researchers are concerned not to distort or compromise the medium or their message and adopt a quasi-reflexive position rather than engage in realist scientific practices; Wagner suggests the two approaches are not wholly incompatible.

4. Respondent-generated visual data.

This section focuses on the key aspects of the second of Wagner's (2001, p 7) abiding ambiguities:

> *how images in general can and should be used in social inquiry* – as information–rich data for extending scientific investigations or as evocative artefacts for challenging or stepping away from a science too narrowly conceived (italics as in original).

Implicit in this statement is a balancing act undertaken by all visual researchers engaged in fieldwork. On the one hand, they may emphasise researcher knowledge and expertise, and on the other hand stress participant's role and insights; the abiding dilemma around research 'on' or 'with' respondents. In addition, researchers need to balance (1) the imperative for sound social science practice (including theory generation, research design, and data construction techniques), and (2) the less tangible 'forces' stemming from their own biographies, academic disciplines, training and research experiences. Ultimately (as well as cumulatively) visual researchers will chose to place their metaphorical fulcrum either closer to researching 'on' respondents and hence seeing them as the 'other', or closer to collaborating 'with' respondents and seeing them as experts in their own lives. This

section of the paper emphasises the latter and promotes a notion of visual research methods that encourages greater co-operation with respondents and working 'alongside' them.

The notion of participant-generated data implies that those who have agreed to become involved in a study have produced some or even all of the data. This shift towards more collaborative and participative modes of research, informed primarily by the critiques of hierarchical and expert driven systems of inquiry, have seen a growing interest across social science disciplines to undertake research which is more equitable in relation to the distribution of power and knowledge between researchers and participants. In turn, this is part of a much older phenomenological tradition as well as an effect of the conjoining of postmodern thinking, civil rights movement(s) and feminist perspectives.

This incorporation of participants needs however, to be seen more as a continuum rather than an 'either-or' scenario. It can be argued that their degree of 'embeddedness' is as much a function of the researcher's political and philosophical orientation towards the whole process of research, as well as participants' willingness to engage in this activity. The range and depth of participation will logically impact across all aspects of the research process. At its most basic participants take a role in the production of data; for example the taking of still or moving images around the parameters of the research study. A crude analogy would be asking participants to keep a journal or diary. In its most sophisticated form, the distinction between researchers and non-researchers begins to dissolve, as participants are involved in those aspects of the study which, in more traditional or orthodox approaches, would be the sole preserve of the researcher (e.g. framing the initial research questions and subsequent refinement, sampling characteristics, choice of methods, data collection activities, analysis and reporting). There are a few but not overly numerous examples of this latter kind of work whereby participants become co-researchers. By literally placing cameras in the hands of participants, a different visual modality is generated i.e. "things" look different. There is a shift from a researcher-centric construction of the social world to that of the participants' as their first-order constructs are given a visual rendering. One of the earliest and possibly best documented examples of the genre is Sol Worth's and John Adair's (1970, 1974; also Chalfen, 1997) work on film-making with Navajo in the mid-1960s.

However, a critical objection levelled against the use of images (or more specifically photographs) is that they are *not* unmediated renderings or as Edwards (2001) calls them 'inscriptions' of 'reality'. The very notion that the image is a construction which 'represents' an intersection between culture, personal biography, positionality, politics, aesthetics and so on, is precisely what many contemporary visual researchers wish to explore. Banks (2001, p 179) takes the line that:

> Social research has to be about engagement, not an exercise in data collection . . . Swooping god-like into other people's lives and gathering 'data' (including visual data) according to a predetermined theoretical agenda strikes me not simply as morally dubious but intellectually flawed.

Pragmatically, the choices researchers make regarding field roles raise a host of personal, procedural, reflexive and ethical issues, many of which have been outlined in recent critiques of visual methods within qualitative work (see Pink, 2005). These issues become even more salient when considered within the context of emancipatory and participatory approaches. We would also apply two basic caveats to this process.

(1) *The way images are generated and used and how images are read in social enquiry shift during the research process.* Hence, *researcher-created data* (numbers, words, images) may legitimately be used under a loosely interpreted *respondent-generated data* (numbers, words, images) theme, and vice versa.

(2) *Empirical researchers involved with human subjects are powerful and make key decisions throughout a study that impact on the quality of data generated.* No matter how empowering or inclusive researchers are, the primary agency and responsibility for the conduct of a study remains with them.

4.1 Photo-elicitation
Elicitation using photographs, drawings, diagrams and artefacts is a widely accepted technique in qualitative inquiry (Johnson and Weller, 2001). In its most basic form photo-elicitation is the use of photographs (whether researcher-created, respondent-created or found) in a research interview to stimulate a response. Harper (2002, p 22) has suggested that 'photo-elicitation mines deeper shafts of different parts of the human consciousness than do words-alone interviews'. The process of photo-elicitation was originally devised by John Collier and others in the mid-1950s initially as a way of generating consensus within a team of researchers in relation to conceptual categories to do with the quality of housing. However, the clever step made by Collier and his team was developing the use of the photographs from being a tool to provide some degree of construct validity and reliability, to using them within their interviews to explore participants' understanding of their own housing situation. In contrast to the orthodox interviews, which were seen as 'less structured and rambling', the use of photos added a focus due to the participants 'response to the graphic probes'. As argued by Collier (1967, p 118) 'photographs are charged with psychological and highly emotional elements and symbols. . .[which] allows the native reader to express his [sic] ethos.' In this sense, we have moved away from the task of documenting the social world to using images as tools via a dialogical process to gain an insight into the lifeworlds of those who participate in our studies. This shift is subtle but important and requires due recognition if photo-elicitation is to be effective, since 'researcher' and 'researched' will employ different but overlapping visual cultures in understanding the photographs used in elicitation as Prosser and Schwartz (1998, p 123) point out:

> Whatever belief qualitative researchers espouse regarding the medium, whether they make visual records or visual diaries, we advocate researchers making their approach explicit . . . The argument we are making parallels a distinction made by Worth (1980) between "records of" and "records about" culture. Records of culture are the documents made by members of a culture themselves, while records about culture are the documents made by outsiders. Taking this point a

step further, Ruby (1976) suggests that the images made by anthropologists may be usefully viewed as records of the culture of visual anthropologists, while simultaneously considered records about the culture of so-called others.

Hence, an important addendum to using photographs as an interview device effectively, is the need for careful reflection and constructive management of the process itself. Taking account of the context of making photographs as well as foreknowledge of the social context of viewing, are pre-requisites to sound photo-elicitation. Bearing issues of production and reception in mind, researcher-created images can be used in focused, yet flexible ways. In a study of a new school's evolving culture Prosser (1992) used three different approaches with his three photographs: 'deputy head with a gun' used only with the two people in the photograph who understood the context of its making, i.e. *individual rhetoric*; 'pupil graffiti', shown to senior management, class teachers and pupils, was used to provoke a reaction and value statements from a diverse audience, i.e. as *watershed rhetoric*; and 'smokers corner' (shown to pupils and staff) as a way off comparing pupil and teacher priorities in an emerging institutional culture i.e. as *contrastive rhetoric*. Usually, multiple sets of images are used, with the number dependent on the aims and needs of a study.

Figure 2: Pupil graffiti   Figure 3: Deputy Head with gun

Figure 4: Smoker's corner

The three photographs (above) worked within the narrow parameters determined by the researcher because each carried a distinct punctum (Barthes 1984; 43) contained in the detail – a cigarette, graffiti, and a gun – on which informants focused and gave their version of reality and meaning. However, whereas the strong punctums acted as a control mechanism to say 'tell me about this', they also acted to restrict their potential by limiting the intrinsic ambiguities present in all photographs that can be put to use as Walker and Weidel (1985, p 143) explain:

> Ambiguity (of a photograph) can be turned to a strength when it is used to elicit responses or communicate complex messages . . . to get them (interviewees) thinking and talking reflectively . . . what is important about the picture is determined, in part at least, by what people say about it.

Additionally, it is normal to use photographs for elicitation purposes that were taken earlier in fieldwork for a different reason and it is worthwhile using archival images that have a connection with the interviewee (see Banks, 2001, p 87). However, it is common in psychology, but rare in sociology and anthropology, to perceive photo-elicitation as a projective technique where respondents' reactions to Rorschach-like ambiguous images are viewed as expressions of behaviour, personality and cultural values (Banks, 2001, p 88 – 89 provides a rare example of this approach used by a visual anthropologist). There is greater potential in photo-elicitation when informants create or 'find' photographs that have significance for them.

A basic reason for using photo-elicitation is to empower respondents. Using the researcher's images in photo-elicitation could 'create a 'bridge' between their (the ethnographer and the informant) different experiences of reality' (Pink, 2005, p 69) but equally, it could lead to over-management and the possibility of the respondent reflecting and articulating what they perceive to be the researcher's preferred meaning. The standard tool of research, the verbal interview, relies on linguistic skills which some members of society, such as the disabled community, children, poorly educated, and those on the periphery, may find problematic. Researchers are wordsmiths by profession and verbal interviews not only give agency to researchers, but also leave out nonverbal components of how meanings are communicated. Clark (1999) illustrates the usefulness of using respondent's images in photo-elicitation when used with children (Clark uses the terms 'autodriving' for this):

> I have used photographs used by the children themselves . . . These visual representations become part of the interview itself and allow respondents to self-select relevant events from their own lives and illustrate these events with photographs. Through this process, autodriving helps ensure that the interview includes topics relevant to the child.

The autodriving form of photo-elicitation uses the respondent's own images (or sound recording) ensuring the discussion is 'driven' by them. The strengths of this approach are that respondents tend to be less inhibited, and that the images provide projective and iterative stimuli through which they reveal thoughts, behaviours, narratives and anecdotes. Using respondent's images can arguably empower respondents in interviews since the interviewees own the data in multiple ways which encourages shared recall and promotes a shared and possibly egalitarian activity.

Photo-elicitation can be usefully employed throughout the research process, for example, to identify or refine research questions, to check on validity of researchers' findings (Becker, 1975), or to complement another method e.g. a cultural inventory (Suchar, 1988).The elicitation and iterative processes are often combined within the same study to gain different perspectives. Schwartz's (1989; 1992) study of cultural continuity and change, for example, used her own photographs and historical images (in five groups) of a farming community in Iowa, USA, to vicariously check her initial inferences with informant's responses before she went on to look at families' albums to explore individual, familial, community groups and intergenerational understandings. The context of viewing is particularly important here, since it reflects the function they serve within the culture of their producers (Musello, 1979). Towards the end of the study Schwartz used images to trigger meanings already in the images to delineate what was important to family and community members. However, the process of engagement and elicitation began much earlier on the first day of fieldwork through the *act* of taking photographs:

> My camera became an important means of entering into the social life of the community. With it I could engage in a commonly understood activity while observing events. My picture taking provided people with an excuse to start up a

conversation, and the longer I made photographs, the more people I met. I was able to move from photographing the environment to photographing public events as my contacts with community members rapidly multiplied.
(Schwartz 1992, p 1)

Photo-elicitation is a complex and multi-layered process. Implicated within this is the context of viewing, the importance of a meaningful link between the image content and respondents, the degree of preferred reading or level of abstraction determined by the researchers, the influence of triggered memories, the range of emergent discussion and the insightfulness of informant's understandings. Elicitation is not restricted to realist photography and there is potential for viewing all visual and material culture. Even asking informants to visualise artefacts offers potential, for example, asking respondents what things they would remove if their house was on fire would provoke a list and discussion of valued possessions and valued memories. However, all elicitation is dependent on the reason and context of viewing, as well as the researcher's choice of material for elicitation. Using video, whilst not common, is gaining converts. As a technique it is more cumbersome and less easy to manipulate and less normalised as an activity than photographs but there is growing interest among anthropologists (Banks, 2001, p 96) and researchers in performance and arts-based research (Knowles and Cole, 2008) to add to the substantial knowledge gained through video research in the learning sciences (Goldman et al, 2006).

4.2 Graphical-Elicitation
The key strength of photo-elicitation as a participatory method lies in its capacity to evoke as well as create collective and personal memory. Chalfen (1987; 1998), a visual anthropologist, has a long standing interest in how families produce and use photographic albums. Family photography and particularly family albums, as process and as an evolving medium that questions past practices and cultural taboos (see Godel, 2007) is important to understanding familial and individual memory construction. Using artefacts such as family albums for memory elicitation, if used thoughtfully, is valuable (see the work of Kuhn, 2002, 2007; Kuhn and McAllister). Respondents may feel less pressured when discussing sensitive topics through an intermediary artefact, since informants do not speak directly about a sensitive topic but work through a material go-between (e.g. a doll, toy, line drawings, story book, or photographs) through which they are able to express difficult memories and powerful emotions.

However, as with all probing mechanisms and techniques that rely on realist imagery to trigger memories and viewpoints, outcomes are unpredictable. Figure 5 shows anatomically correct dolls used in child abuse investigations and which feature in expert witness evidence. This particular approach, commonly used to build rapport or for diagnostic reasons, is a projective technique requiring careful and specialist handling. (Wakefied and Underwager, 1998; Davey and Hill 1999).

Figure 5: Anatomically correct dolls.

A sympathetically handled word-only interview may stir up strong emotions but image and object focused interview elicitations are likely to evoke even stronger (and possibly unanticipated) emotions. Clearly, used injudiciously and without sensitivity under certain conditions, using apparently innocuous visual stimuli and material culture can evoke inaccurate, distorted, unexpected, powerful and even painful memories.

Nonetheless, graphical elicitation is a gentler process where respondents do not react to strong and immediate visual stimuli, but to stimuli which they often create and manage themselves. It is beneficial where literacy and cross-cultural language communication is problematic or when there are major differences in knowledge and expertise, for example between expert and non-expert. Graphic elicitation takes various forms, differs in the levels of abstraction adopted, is usually diagrammatic in design and necessarily incorporates appropriate visual codes of notation. In its simplest from, it is a process that involves diagrammatic reasoning whereby ideas are shared through sketches; a conversation via a drawing. Most commonly used as a form of visual and spatial thinking it is useful as a way of gaining a graphic overview of subject matter through an iterative approach to sketching.

Joseph Novak and his research team at Cornell University in the 1970s developed concept mapping as a means of representing the emerging science knowledge of students. This work was also based on the cognitive theories of David Ausubel; it is also known as assimilation theory where there is an emphasis on the significance of prior knowledge in being able to learn new concepts and ideas. Concept maps are defined by Novak and

Gowin (1984, p 15) as 'a visual road map showing some of the pathways we may take to connect meanings of concepts in propositions'. Concept mapping software favoured by scientists, engineers, and administrators, such as IHMC Cmap Tools (http://cmap.ihmc.us) are commercially available word-graphic software. However, although graphic software may be a useful tool for researchers for member validation, to stimulate and record thought and for emergent theorising, clinically well formed diagrams may lead to 'graphic seduction' (Crilly et al, 2006, p 360) and be fixed and therefore restrictive in the eyes of respondents. Hence this approach may define rather than promote reflective thinking.

Mind maps (see Figures 6 and 7) are based on radial hierarchies and tree structures (Buzan, 1995) whereas concept maps are based on connections between concepts and tend to be represented in a top-down format with key concepts placed at the top and lesser concepts positioned lower down on a page. Both mind and concept maps are most commonly used for increasing memory and conceptual development and for tracking the development of students learning, as a diagnostic tool for evaluating their progress and as an aide to help children learn how to learn. These approaches are premised on a constructivist notion of learning and that learners frame their understanding of new knowledge on pre-existing beliefs. However, importantly, concept mapping can be used as a tool for learning to articulate student' perceptions, promote reflection, generate and communicate complex ideas, on a range of topics (see Figure 6).
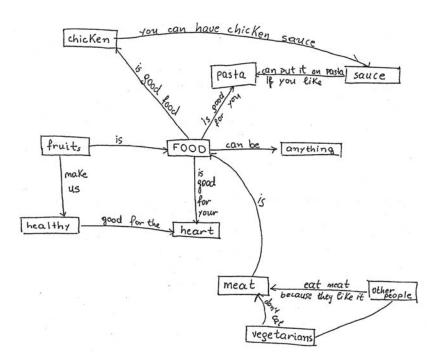

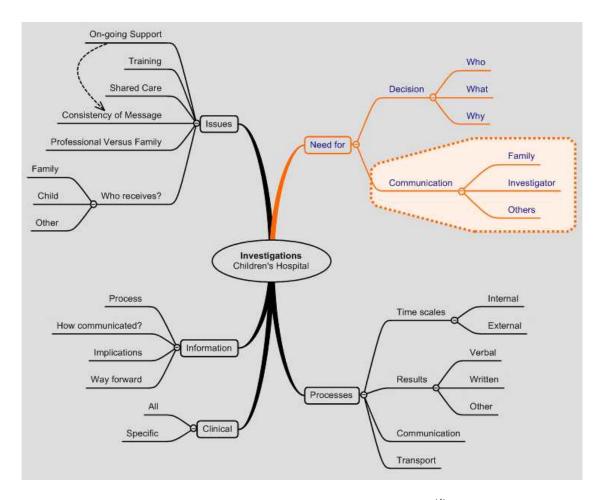Figure 6: mapping students' understanding of food.

Figure 7: A computer generated Mind Map[(4)]

Graphic elicitation in practice has no rules, formal restrictions or strict guidelines. Whereas more formal constructivists might follow a successive incremental review process researchers create the initial graphic diagram as a formative stage in checking, exploring and developing ideas and their relationships. Crilly et al (2006, p 345) see the formative to summative approach through a concept they term 'graphic ideation':

> Graphic ideation is . . . an iterative process in which ideas are visually expressed, tested and then fed back to the expressive stage . . . The output of this initially cyclical activity is the eventual convergence on a graphic solution that is considered appropriate.

The weakness of this approach is that the direction and focus of the interview is established by the researcher's initial drawing. Most often it is the interviewee not the interviewer who creates and develops graphical representations based on simple instructions. In these cases a 'spider' map is sketched and a trigger word or pivotal concept is placed centrally and participants asked to provide additional linked concepts. This provides for a different format to the usual word-based interview, since the respondent's agenda is given priority over researcher-led questioning. Also, the speed and rhythm of the interview is decided by respondents' thought patterns (they will be making decisions, deciding priorities and

clarifying their own thoughts) rather than feeling the pressure to respond to a question posed quickly because the norms of society stress repaid response is appropriate and gaps in conversation are embarrassing. Subtle researcher probes and encouragement can lead to a brainstorming feeling where the respondent is in control. The ideas or concepts are arranged intuitively according to their importance to the respondent into groupings, branches, or areas. The uniform graphic formulation of the semantic structure will aid recall of existing memories and assist in further idea creation. Documenting a graphic-elicitation event can be problematic: The researcher can choose to make notes, use a tape recorder and hence record verbal interchanges during the elicitation process; or adopt an ethnomethodologist's preferred method which would be to use a video camera and thus include sound, facial expression, arm/hand gesture, time and sequences.

Establishing an appropriate starting point and providing guidelines for graphic elicitation requires careful thought. It is possible to give respondents an understanding of what is required by a 'here is one I made earlier' approach although this may lead to copying and restrictive practices. Another possibility is to provide basic 'scaffolding' instructions to give respondents confidence yet avoiding being overly prescriptive. For example if exploring respondent's relationships to significant others e.g. friends, peers, or neighbours the following could be suggested:

- Place yourself at the centre of the diagram;
- Let the physical distance between you and characters and between characters reflect how close the relationship is;
- Let the size of the shape representing a person or group vary with their importance to you or others e.g. a big circle around important people/groups, smaller around less important people/groups;
- Show the connections between relationships by an arrow/line, and its nature by a brief label;
- The personality of key people or the character of a group can be shown by the use of colour or visual symbols such as pictures or shapes.

Although they are often personalized and idiosyncratic, concept maps can be used to communicate complex ideas and to trigger previously unconsidered notions. Adopting the syntactic properties of linguistic symbols and pictograms of respondents is far more important than arriving at an impressive, but meaningless, concept map. There are dangers and pitfalls. Being overly prescriptive or introducing alien sign systems limits reflexive thought. Also being impressed by colourful, complex, aesthetically interesting concepts maps is missing the point. Consider, for example, Figure 8:
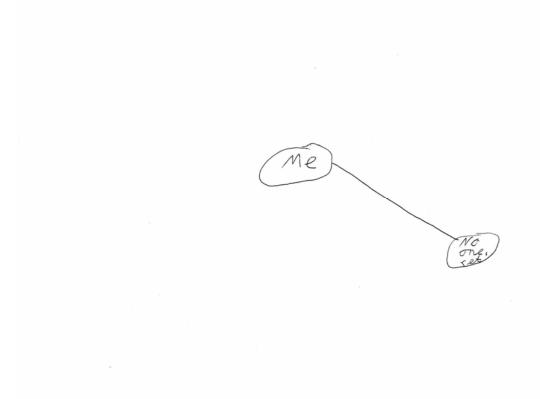
Figure 8: Me – No one yet.

This is a map of friends and friendship groups in a school playground made by Lucy, a pupil with Special Educational Needs who is on the autistic spectrum, has learning difficulties and speech limitations (Prosser and Loxely, 2007, p 60). She had no friends to play with and placed the bubble with "No one. Yet" a long way from the "Me" bubble. There was a positive note in the use of 'Yet'. Simple should not be equated with simplistic and whilst the end result may look unimpressive the process and empowerment, engagement and trustworthiness of the data which is at the heart of this method, is. Graphical-elicitation and other sensory methods have the potential to provide agency where none existed for those on the periphery of society. Children with disabilities make sense of their lives through the interplay of sensory relations not accessible through discourse; words are mere proxies for their direct experiences. Text-and-number based approaches are limited because they fail to move beyond inherent psychophysical characteristics to reveal taken-for-granted, embodied, sensorial lives. Those who find words and numbers difficult do not perform well in interviews or questionnaires and hence fail to figure in representative samples and societal norms.

In the same school as above a different graphical elicitation method was used with more able students. They were asked to draw a plan of the playground and mark their favourite (in red) and least favourite (in blue) places to play. Figure 9 is illustrative of 95% of girl's drawings in that it designates the football pitch (in the middle of the drawing) as blue.
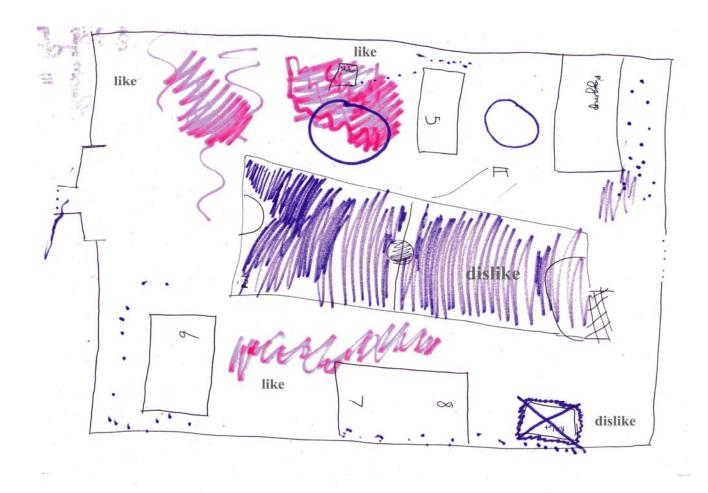
Figure 9: A Girls 'liked space' – 'disliked space' drawing

With additional richness of visual data comes complexity and analytical possibilities as Prosser and Loxley (2007, p 61) explain:

> The drawings can be interpreted by calling on researcher's knowledge (sometimes termed 'close reading') or by seeking participant's meanings or a combination of the two approaches. Whatever tactic is taken, analysing children's drawings is complex and difficult. Diem-Wille (2001, 119) adopting a psychoanalytical perspective argues that drawings show a child's emotional state better than verbal descriptions since they are "expressions of the unconscious emotional aspects of a person".

When the researcher rather than the respondent creates the graphical elicitor the stimulus must function within the visual code i.e. the symbols and signs and visual culture of respondents. For example, Wall and Higgins (2006) facilitated metacognitive talk to explore pupil's understanding of interactive whiteboards in schools using images containing a visual vocabulary understood by pupils (see Figure 10):
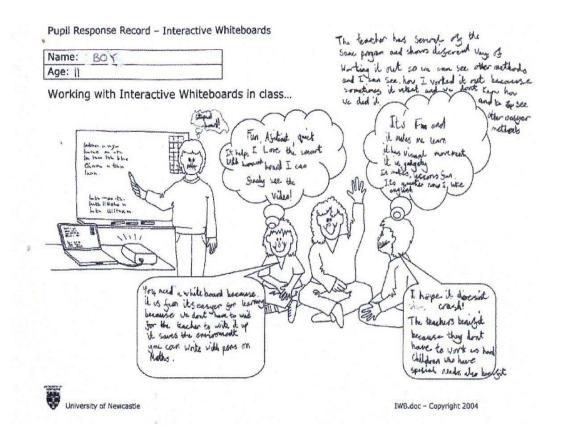
Figure 10: Researcher created graphic- elicitation tool (Courtesy of Steve Higgins and Kate Wall)

The graphics are based on a cartoon genre using a bubble format for speech and thought and then used as contextualised stimulus to elicit pupil's reflection on the process of thinking. Wall and Higgins (2006) emphasise the theoretical underpinning of their template through a three-way interaction between researcher, pupil and cartoon-elicitations (or template) as follows:

> Talk is important for both comprehension and clarification (see Doddington, 2001); however, within this particular technique a carefully designed paper-based template is used to support and scaffold this talk in the interview . . . The template we have designed can be understood as a 'semiotic tool' (Vygotsky 1978; Wells, 1994) and forms the basis of a mediated interview about the teaching and learning situation.

The researcher created template differs from earlier examples of graphic-elicitation in terms of lessening participation and communicatory focus. When the respondent is in control the graphics are central to the communication but facilitate speech; when the researcher controls the graphics speech becomes central to the communication.

4.3 Respondents with Cameras
As argued above, this general shift towards more collaborative and participative modes of research, has been informed by a growing interest across social science disciplines to undertake research which is more equitable in relation to the distribution of power and knowledge between researchers and participants. By literally placing cameras in the hands

of participants, it can be argued a different visual modality is generated. There is a shift from a researcher-centric construction of the social world to that of the participants' as their first-order constructs are given a visual rendering. One of the earliest and possibly best documented examples of the genre is Sol Worth's and John Adair's (1970, 1974) work on film-making with Navajo Native-Americans in the mid-1960s (see also Chalfen who was Worth's student, 1997). Worth and Adair's vision was, and remains, to empower respondents, to "allow researchers to see parts of their lives that might not otherwise be visible" (Banks, 2007, p 78) and by close reading of their imagery to come to 'know' them and their world. The latter is possible since the accepted notion that the image is a construction which 'represents' an intersection between culture, personal biography, positionality, politics, aesthetics and so on, is precisely what we wish to explore. Greater understanding of individual lives and group culture is possible through close reading of photographs. For example Sharples et al (2003) in their systematic study of children as photographers aged 7, 11 and 15, from five European countries, provides an insight into children's photographic interests and capacities. The study found that children across the age groups showed an increasing ability to distinguish the properties of images from the world they represent. This suggests that children should not necessarily be viewed as apprentice adult photographers, since they exhibit their own distinctive intentions and products. Since children display critical capacities through their photography and are able to access physical and mental territory not available to adults there is a case for perceiving them as fellow researchers.

The rationale underpinning Worth and Adair's study remains consistently applied today but a more strident political and emancipatory edge by those who use it is claimed. Wang's idea of *photovoice*[5] for example, is built around the principles of participatory action research. This is essentially a mode of inquiry that has as its primary objective the generation of social change through community action informed by research evidence; in Wang *et al's* case health education in China and homelessness in the USA. Photovoice, along with photo-narratives and photo-novella are all variants on a common theme of reflexive photo-participation. Hubbard[6], a professional photographer, gave cameras to homeless children, children at risk and American Indian children through a project called 'Shooting Back'. Ewald[7] (2001) a photographer/educator, working around the same time, gave children cameras to aid self expression and language development.

Wang, Hubbard and Ewald are researchers encouraging respondents to use cameras to document aspects of their lives, giving them the freedom to create their own agenda. Like many of the more orthodox research methods (interviews, diaries, observation etc) employed in participatory action research, the images can be put to a number of different uses (descriptive, documentary, analytical, symbolic, rhetorical and so on), but at the core of this, and by extension most other studies to date which use this approach, is a phenomenological 'centring' of participants lived experience. This foregrounding of individual experience in these kind of community change projects is underpinned by Paulo Freire's (1970) work on developing critical consciousness concerning the individual, their relationships in local communities and the wider society in which they are located with the intention to address issues of social injustice.

Providing respondents with digital video cameras, often called 'participative video', also requires negotiation of research relationships and is critical if hierarchical power relations are not to be reproduced through researcher dominated procedures possibly leading to subjugated respondent's imagery. A central aim of the participatory video process is to create a video narrative that conveys what respondents want to communicate in the manner they wish to communicate. Of course pragmatic decisions about what should be framed and how the sequences are to be organised to tell a story bring into question the negotiation roles and the objects behind employing participatory-intervention video. Rich and Chalfen (1999) and Holliday (2004) are good examples of using video diaries as a form of self-representation to share information between doctors and patients (health), and between respondents and peers (queer identities) respectively.

4.4 Creative Methods

It can be argued that the act of 'creating' is elemental to the human condition and consequently image and object making has spanned the evolution of humankind. We can be creative to represent the human condition and for fun. Analyses of found visual representations of prehistoric cave drawings provide an understanding of the culture and technology of a previous era. The hand paintings of Cueva de las Manos, for example, although created between 9,000 and 13,000 years ago provide a limited insight into the lives of the hunter-gatherer communities of Patagonia who created them (Figure 11):

Figure 11: Cave drawings of Cueva de las Manos, Patagonia.

The paintings are 'found' visual data and contextual information is limited. However, we can observe that only 31 of the more than 800 hand prints are of a right hand which

suggests most of the artists were painting their own hands (assuming that contemporary statistics for right and left handedness is relevant). The hands are small, which implies that only children of a certain age were allowed to paint their hand – perhaps as a rite of passage or signifying transition to manhood? The hands are formed by drawing negative space i.e. through a form of negative stencilling but the hand outlines are too diffused to have been painted by brush. The hollow bird bones found at the site suggest that paint pigment was blown over the hand to form a soft edge. Hence, the drawings of Cueva de las Manos can be legitimately conceived as being either culturally significant (which they are since it is a world heritage site) or an early example of spray-paint graffiti (which it is if we accept that "Mindless vandalism can take a bit of thought" - Banksy, 2005, p 205). Whatever theoretical or moral position is taken, whether this creativity is seen as a cultural artefact or defacement of public space, it nonetheless provides an insight into visual texts and sign systems that communicate cultural or otherwise significant information about society and individuality.

Creativity takes many forms and contributes to empirical studies in a multitude of ways. Gauntlett (2007) in his book 'Creative Explorations' outlines the nature of creativity and draws on the philosophy of science and what counts as evidence to substantiate applying creative methods within a social science framework to generate knowledge about peoples' identity and social experience. He is particularly concerned with everyday creativity and extends and refines Kress and van Leeuwen's (1996) point that creations cannot be understood in isolation, but only from within the context in which they are made and used. We only have space here to mention a few examples of this burgeoning aspect of research methodology.

Some creative methods have a close affinity with photo and graphic elicitation but extend the participatory principle by emphasising respondents' ownership and agency through the act of creation. Wetton and McWhirter (1998) use a 'draw and write' technique and Schratz and Steiner-Loffler (1998) gave respondents cameras, as a way of 'starting where the children are' (Wetton and McWhirter, ibid, p 263) and as a way of enabling them to communicate important emotions and experiences. Hence, as with other applications of creative methods, the process, activity and practice is as important, if not more important, than the semiotic reading of the final drawing, painting, photograph or artefact. Gauntlett[8] (1997) in his study 'Video Critical' provided the first substantive and reflexive exemplar of qualitatively driven applied creative methods. The study adopts and extends Kress and Leeuwen's notion (1996, p7) that: 'The process of sign making is the process of the construction of a metaphor' by exploring the thought processes and beliefs of inner city children in Leeds, UK, aged 7-11 as they went about creating a video on environmental issues. Gauntlett was impressed by the creative capacities and visual literacy of the children, many of whom were from disadvantaged backgrounds:

> The children's familiarity with the constructedness of the media, their ability to conceive of the final text even as they recorded elements of it out of sequence, and the sheer speed with which they picked up how to operate the equipment and began creative activity, are all parts of the whole range of ethnographic findings which further convince this author that the effects paradigm can be cast aside as

incapable of providing us with sensitive and pertinent understandings of the role of the media in the formation of consciousness. The study also shows powerfully that a methodology which avoids the patronising, positivistic stance of the psychology-based effects tradition, and allows children to show their intelligence and discretion in relation to the media, can transform the kind of conclusions which must be drawn. (from http://www.artlab.org.uk/videocritical/).

Gauntlett built on his experiences of video and explored children's' capacity to draw celebrities (2005) before extending his repertoire to include 'Lego Serious Play' which involves asking participants to construct a metaphor of their identity using Lego (see Gauntlett, 2007). These studies were conducted in groups and participants expressed their ideas and selves in a semi-public arena. If artists are considered researchers in their own identities then Tracy Emin is one of the best known protagonists for her biographical studies, for example 'My Bed' (Emin's Turner Prize exhibit). However, such open personal revelations are not acceptable to everyone and some require secrecy or anonymity before revealing deeper and strongly held beliefs and emotions. *PostSecret*, for example, is an ongoing community art project where people mail in their secrets anonymously on one side of a homemade postcard and post it to a website (see http://postsecret.blogspot.com/). Secrecy is also important to Banksy, the well known but anonymous shadowy graffiti artist, who defends the validity and integrity of his clandestine art by stating:

> Graffiti is not the lowest form of art. Despite having to creep about at night and lie to your mum it's actually the most honest artform available. There is no hype, it exhibits on some of the best walls a town has to offer, and nobody is put off by the price of admission

(Banksy, 2005, p 8)

Because graffiti are mainly private acts of disclosure they are powerful forms of evidence and should be taken into account alongside more public displays.

4.5 Arts-based research methods

The human capacity to be creative is not the only driver in inventive visual methods. Imaginative methods are emerging in response to concerns of mainstream social science. Contemporary empirical research in the social sciences has adopted a flexible approach to methodology as researchers strive to answer more complex questions about society. There is an enthusiasm for mixed methods, for combining quantitative and qualitative, and consequently a richness of methodological possibilities. Studies that combine word, numbers and imagery, however, are rare. Nonetheless, new possibilities are emerging through a growing interest in evolving theoretical specialisms such as 'embodiment' (Turner, 1996) 'autobiographical enquiry', 'performance' and 'sociology of emotions' which have contributed to a growing interest in sensory research methods.

The sensorial experiences of people are important because sensory relationships are pivotal domains of cultural expression and the medium through which values are enacted. Sensory relations are also social relations. Understanding how members of a society navigate changing social and cultural landscapes through their senses is fundamental to the process.

People make sense of their lives through the interplay of sensory relations not accessible through discourse; words and numbers are mere proxies for their direct experiences. Text-based approaches are limited because they fail to move beyond inherent psychophysical characteristics to reveal taken-for-granted, embodied, sensorial lives. Hence, interpretive researchers are seeking out non-discursive knowledge that is epistemologically, theoretically, and methodologically different, from text-only approaches.

Creative research methods, including sensory (of which vision can claim to be the senior sense) and arts-based approaches that invoke beyond-text sensations, are employed to access sensory phenomena which are highly meaningful and in ways that are ineffable and invisible using conventional research methods. Expertise and enthusiasm for sensory research emanates from North America, and the Canadians in particular are at the forefront in developing arts-based research methods. The key text in this area is the 'Handbook of Arts in Qualitative Research' (2008) edited by Gary Knowles and Ardra Cole. It covers art-based, arts-informed, and arts-based research, each with a distinctive methodology, and importantly promoting the notion that art should be regarded as a form of knowledge and not merely an ornamental production of human experience. Art-based research is defined by McNiff (2008, p29) as:

> the systematic use of artistic process, the actual making of artistic expressions in all of the different forms of the arts, as a primary way of understanding and examining experience by both researchers and the people that they involve in their studies.

The visual arts are an emerging genre although 'collage as inquiry' (Butler-Kisber, 2008), installation art-as-research (Cole and McIntyre, 2008) and ethnodrama and ethnotheatre (Saldana, 2008) are approaches that are more widely known if not commonly accepted within qualitative research. The vibrancy of arts-based research is impressive but its role in social science research has yet to be understood and appreciated. Elliot Eisner (2008, p7) claims a special provenance for including an arts-based approach to research:

> Langer (1957) claims that discursive language is the most useful scientific device humans have created but that the arts provide access to qualities of life that literal language has no great power to disclose.

The role of arts-based research in general and visual arts research in particular makes a strong claim for inclusion in the qualitative research family but has some way to go before being accepted as a rigorous and valid approach. Visual researchers should give serious consideration to play with, refine, and when appropriate adopt arts-based research methods.

5. Visual Methods and Research Design

Bryman (1989, p 28) sees *research design* as 'the overall structure and orientation of an investigation'. Research design makes explicit a general plan for the work and identifies a particular set of research strategies for conducting a study. A design typically offers a 'blueprint' for the management of the investigation, which also incorporates a rationale for research site and sample selection, the researcher's role, data collection methods, data organization, analysis strategy(s), issues around trustworthiness, and a time-management plan. Putting all these elements together is a skilled task at the best of times and learning how to effectively incorporate visual methods into contemporary research designs is a methodological priority for visual researchers.

A fairly obvious, but sometimes overlooked, question is why is it important to reconsider the visual component of research design? Part of this is bound up with living in an increasingly visually-saturated culture. Although there have always been images, our everyday lives are replete with populist imagery through, for example, television, cinema, the internet and hard copy magazines, with a commensurate increase in words for example, speech, dialogue and texts. The ubiquitous presence of 'globalisation' and changes in communication has contributed to collective international problems as well as the communal sharing of research and data. Consequently, important and complex research questions of global significance are being explored by teams of quantitative and qualitative researchers. These factors combine to provide visual researchers with the challenge of offering sound design solutions with a visual component which is capable of answering complex and important research questions. The promise of visual methods will be translated into reality when visual researchers become adept at integrating visual methods into contemporary methodology through rational, creative and sophisticated research designs.

In the past, image-based research and research design operated mostly within a traditional visual topic and single visual mode approach. An example of this would be a library based study with additional 'word data' generated by photo-elicitation using family photographic albums involving one researcher to study family snapshots. The visual-centric comfort zone inside which visual researchers operate is changing, as more complex research questions are addressed and as word-and-number based researchers increasingly adapt a visual dimension to their work.

Visual researchers will increasingly be required to make step changes in their approach to research design by adapting and adopting both traditional and emergent practices. A methodologically framed, visually orientated, mixed method, interdisciplinary approach, to examining overarching and substantive global themes and research questions which are central to understanding the nature of everyday lives, are in the ascendancy. This approach, to be effective, requires collaboration of a high order and the establishment of flexible and diverse research teams capable of contrastive and reflexive rhetoric. Although there is no isomorphic relationship between any given set of research questions and research design, some are more appropriate than others. Unfortunately, at present the most common mixed

method designs are used to span the quantitative and qualitative divide and there are insufficient models or exemplars of the contributive role visual methods could play.

This section very briefly considers two studies, *Criminal Identikit* and *Reading Surfaces*, each with a visual dimension operating an interdisciplinary and multiple method logic. Our aim here is to encourage more ambitious and creative research design by visual researchers. We would argue that if a topic under study or a particular research question is visual then a design incorporating visual methods is often necessary and appropriate. However, even if a topic has no obvious visual dimension visual methods may be useful because as suggested by Weber:

> Images can be used to capture the ineffable, the hard-to-put-into-words . . . images can make us pay attention to things in new ways . . . they are likely to be memorable . . . (and because) images can be used to communicate more holistically, incorporating multiple layers, and evoking stories or questions (Weber, 2008, pp 44-45).

Nonetheless, researchers need very good reasons for incorporating visual methods and techniques within a design and should offer a strong rationale for how they contribute to answering research questions posed. The first issue for visually orientated researchers to address is not *'when'* and *'how'*, but *'if'* and *'why'* visual methods are used in a research design.

5.1 Criminal Identikits

There are inherent dangers in visual methods becoming fashionable. Applied visual researchers stand outside of this debate because whilst the visual remains important it rarely becomes blinkered or overtly visual-centric. There is always a focus on a problem and its resolution and a willingness to adopt and adapt whatever approach may help resolve that problem. Practitioners draw on a creative or esoteric mix of techniques, methods, perspectives and theoretical frameworks as necessary in order to arrive at resolutions. In contrast, we argue, visual researchers, like many other academics, tend to reapply their knowledge and skills to similar sets of problems within their 'comfort zone'. Of course applied researchers have similar tendencies but they are inventive out of necessity since their funding is often based on their past record in resolving everyday problems that affect people's lives. Applied researchers attempt to answer what could be considered concrete problems and demonstrate (hopefully) successful solutions in the everyday world whereas theoretical research focuses on abstract problems and their primary audience is the academic community.
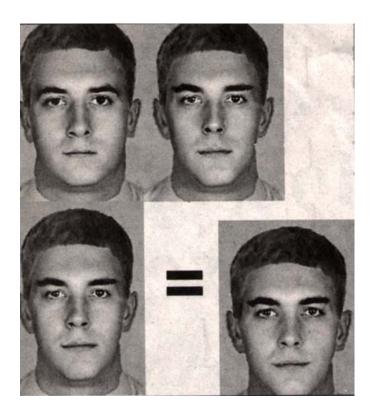
Figure 12: Morphing Identikit images (courtesy of Peter Hancock and the EvoFIT team)

It can be argued that traditional disciplinary hegemony is no longer acceptable and neither are approaches whose concept of multi-disciplinarity are fashionably superficial or cannot see any value in orthodoxy. To illustrate what can be achieved by applied collaborative interdisciplinary research designs we turn to our first example which illustrates how simple but elegant visual research designs are being developed to resolve complex concrete problems within criminology. The aim of the study was to obtain more effective and accurate identikit pictures of suspects. At present an identikit image is constructed based on the description of a single witness. The team, comprising of criminologists, forensic scientists, and psychologists[9] found that likeness is improved by merging together different images on a computer. They took descriptions from multiple 'witnesses' which varied in terms of accuracy from 'quite good' to 'very bad'. (Figure 12) When they were digitally merged, the identikit image's likeness (the illustrative example is of Michael Owen, UK sportsman) was perceived as slightly improved on the best single image and much better than the worst.

The team suggest that each identikit image of the original faces captures some aspect of the actual target, but when merged together they bring out a commonality (Bruce et al, 2002). This approach draws on photography's capacity to provide extra-somatic 'memory' (Khun, 2007). Of course, the technique itself of combining, merging or morphing images, is not new. For centuries fine artists have overlaid paint to provide a translucent quality to their work, and contemporary artists morph photographs to produce composite images. The important message to take from this study is not in its detailed design, but embedded in its

stimulating innovative nature. The team dynamically combined five disciplines - fine art, psychology, forensic science, criminology, and software development - to resolve a problem through theory development grounded in empirical research, which is unusual in itself. How the team joined forces in the first place is intriguing since they work in quite dissimilar fields, different departments in different universities and use different approaches and different skills. They were not theory-method driven in a narrow minded or dogmatic way but adopted intellectual flexibility to engage with and resolve a particular problem through a mixed-method research design. Their work is indicative of the sort of expansion in agendas that can be expected if genuine collaboration with other disciplines is embraced. It is probable that good designs stem from good teams and that 'good' may be determined not by passive collegiality but an eclectic mix comprising fertile exchanges and combinations of creative minds and logical practices.

5.2 Reading Surfaces

Sometimes what is important in a design is a capacity to change and, where necessary, adopt new methods to answer emergent questions. Harper (1997; 2001) combined quantitative, qualitative and visual methods in a study of dairy farm typology in the USA. The study was undertaken at a time when family dairy farms in the USA were thought to be changing and in decline. Harper designed the initial phase of his study to replicate dairy farm studies undertaken elsewhere by Cornell University. Working in his own neighbourhood, using a predetermined 355 item survey questionnaire he obtained numerical data:

Item	Craft Farm (N=35)	Industrial Farm (N=13)
Mean number of cows	46	108
Size for crops	205 acres	412 acres
3xday milking	11%	54%
Horsepower used on equipment	192%	502%
Closing down in next 5 years?	21%	0%

This first phase of the study followed a classic quantitative research design. The survey instrument, acknowledged for its reliability and replicability, was used to identify patterns between designated factors and for comparative purposes. In the second phase, as planned, Harper added qualitative data in the form of in-depth interviews to help explain issues arising from the quantitative survey data and in order to gain both breadth and depth in his analysis – again this is classic mixed method design (see Tashakkori and Teddlie, 2003). The additional interview data confirmed the findings from the survey data and furthermore established that "craft" and "industrial" farms operated different farming processes. This led Harper to conclude that "The clearest embodiment of the differences between craft and industrial farms is in their barns … craft farms used stanchion barns … the industrial farms 'freestall'". Harper gained the 'big picture' or meta-data from quantitative data (survey), the 'close-up' view or micro-data from qualitative data (interviews) but felt he was missing

important explanatory in-between meso-data. He thus elected to collect this 'mid-height' data by examining farming processes over time through focusing on the evolution of different farm buildings. Harper opted for an aerial survey (see Collier and Collier, 1986) taking photographs of the farms from an aeroplane enabling him to make further visual systematic comparisons and repeated analysis (see Figure 13). He was aware that archaeological surveys commonly employ aerial photography to aid identification of surface traces that are indiscernible at ground level.

Figure 13: Aerial survey of farm buildings (courtesy of Douglas Harper).

Harper re-analysed the layouts of the different types of farms and also used the aerial images in a photo-elicitation exercise with the farmers. Viewed from the air patterns of artificial structures and natural phenomena are perceived differently offering alternative and additional interpretations to those gained on the ground. He concluded:

> It is easy to see how buildings are laid out, and to guess their ages from their
> construction techniques. The aerial photo calls certain elements into the
> viewer's attention that might be missed, such as swimming holes. One gains a
> subjective sense of the organisation of the farming; the industrial farms operate
> on a relatively larger scale and a greater complexity, as seen in the size and
> layouts of buildings. Finally, the aerials provided information on several post-
> farm features in the neighbourhoods, including non-dairy agricultural

development, rural gentrification, and servicing neighbouring dairy operations and the rural poor. (Harper 1997, p 75)

Hence, changing the angle of view changed both Harper's and the farmer's perceptions. He found that the aerial photographic data supplemented, contextualised and refined earlier forms of data and findings. There are two good reasons to use imagery in this study: to utilise the capacity of photographs to 'jog memories' and to "elicit emotional as well as intellectual responses" (Weber, 2008, 45); and to literally and metaphorically change perception (the psychology of perception suggests that changing one's angle of view may change our perception - the duck viewed straight on becomes a rather cute rabbit if the head of the viewer is tilted to the left - see Figure 14).
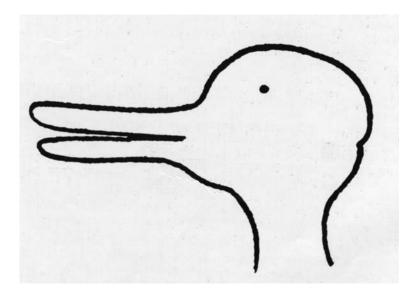
Fig 14: Changing viewing position alters perspectives

Viewed from the air we perceive the patterns of artificial structures and natural phenomena differently, offering alternative interpretations to those gained on the ground. Usually, mixed method research design usually entails moving from macro to micro (quantitative to qualitative) or micro to macro but in this case Harper has responded to an emergent need and subsequently applied a macro–micro–meso model by effectively utilising an additional visual technique.

Mixed method interdisciplinary research design is not easy. Key decisions about research design are not necessarily determined by knowledge and logic but by power. Foucault (1980) reminds us that knowledge generation is contingent and bound up as much with power as with truth. Pivotal to the constructive development of research design which includes visual methods is the need to resist institutional, conceptual and methodological 'straight-jacketing' by in-house and disciplinary factions. In the past the inability of visual researchers to stand outside of power games nourished the division between visual

sociology (empirically orientated social science) and postmodernism, cultural studies (visual culture) and critical theory, undermining the development of an encompassing and invigorating intellectual visual research community. Intransigence is a hallmark of endemic conservatism wherein researchers are unable to see the weaknesses in their own approaches, nor the strengths others may offer. Visual methodologists, if they find themselves in right contexts, should be flexible and creative research designers.

6. The Visual as Representation

It is our belief that insufficient attention is given to visual representation or representation of the visual in academia. Even within word and number based research representation the visual display of data and findings is infrequently discussed. Different media and modes of representation are available but most academics are only peripherally concerned with representing their findings to two audiences, students and peers, and follow well trodden paths laid down by previous generations of academic presentation (see Banks, 2001). In addition, despite the growing need to present findings to diverse audiences including policy makers, practitioners and communities involved in participatory research, dissemination of theory and findings has changed very little.

The indexicality of words and the multiple interpretations of images is often used as an argument to present research findings through words. However, increasing focus on visual methods, visual data, visual culture etc., and growing understanding of the importance of the explanatory value of visualisations of findings as well as new forms of screen-based communication, is challenging word-only and graphic-free representations. What the new language of visual and visualisation display will look like in the future is difficult to say since there are many approaches to visual display and the capacity of different visual modes and the problems of multi-vocality of visual imagery are all in the process of shaping and being shaped by different visual cultures.

In this section we touch upon visual representation via two strands: *visual representation of word and number-based research;* and *visual representation of visual research.* Both constituents are interrelated with the former providing a foundation and cultural legacy for the latter and the latter providing potential for future visual representative enhancement of the former.

6.1 Visual representation of word and number-based research
Some visual sociologists, mirroring arts-based practice, believe that the holistic context of viewing information is important. Doug Harper, for example, an eminent visual sociologist and past editor of the journal *Visual Sociology,* carefully considered the design, layout, quality of paper, etc of each edition of the journal and furthermore checked production quality by driving long distances to observe the final printing in process. Such attention to detail in academic publications is rare. The design, layout, and graphical representation of orthodox word and number based publications retain the visual imprint of an earlier, less visually sensitive, era. Once a particular form of hard-copy presentation is adopted, for reasons of cost, identity and taken-for-grantedness, change to another form is very difficult.

Consider, for example, the photograph of a page in an orthodox academic journal shown in Figure 15

Figure 15: journal page

One reading of the design and layout suggests that spacing and graphics are a measure of the journal's publishers' preferred view of its academic standing. The large white space surrounding the relatively small text, the narrow space between lines of text and between text, the large font for the title and the total reliance on classic serif font, combine to emphasise the preciousness of the words. In addition, journals with a similar textual format and small in terms of external dimensions, are less likely to contain imagery than those with more open format, more generous internal spatial arrangement, and larger in size. Compare, for example, a 'heavyweight' UK word-based journal like *Sociology* with a visual journal such as *Visual Studies.* Both currently meet the needs of academic audiences with the former very rarely including images and the latter always including images. Both formats are dated and will, we suggest, need to change in the near future.

Visual representations of data and findings go back hundreds of years. Number-based research often represents finding through graphical representations including graphs, diagrams, tables, and charts. Tufte (1983; 1990; 1997) and Kosslyn (1994), influential figures in contemporary graphic design, offer guidelines for high quality representations (for an overview see Grady, 2006). It is easy, they suggest, to misrepresent data and even the humble pie and bar charts, omnipresent in science textbooks, can fall victim to poor data display or what Tufte sometimes refers to as 'chartjunk' (a sort of 'over display').

Very early in their lives children learn to say "You cut and I'll choose" in the knowledge that when a cake is cut in half, the numbers (1/2), the words 'half for you half for me', and the visible evidence, are often very different. The discrepancy between numbers and graphical display is why Wainer (1997, p 87) stated "I used to like pie charts, but that was a long time ago. Now I hate them. . . . Reasons for hating the pie chart are so numerous that almost no explanation is necessary".

The key question to consider in relation to representation of quantitative data is whether they are 'quiet, and let the data speak for itself' (Wainer, 1997, p 11) or whether they display data badly by showing very little data, portraying data inaccurately or obfuscating the data - all of which reflect poor design. Tufte's golden rule provides a useful indicator:

> What is to be sought in designs for the display of information is the clear portrayal of complexity. Not the complication of the simple; rather the task of the designer is to give visual access to the subtle and the difficult – that is, the revelation of the complexity (Tufte, 1983, quoted by Grady, 2006, p 222).

In 1869 Minard, a French engineer, created a dramatic information graph of Napoleon's disastrous Russian campaign of 1812 (Figure 16). The graph displays several variables including the army's location and direction (brown out, black retreat), units splitting off and rejoining, the declining size of the army throughout the campaign, and the low temperature during retreat, in a single two-dimensional image. Tufte (1983 p 40) called it "the best statistical graph ever drawn" and Wainer (1997) nominated it as "the world champion graph". Minard's eloquent depiction of clear portrayal of complexity is a good example for quantitative and qualitative researchers to emulate.
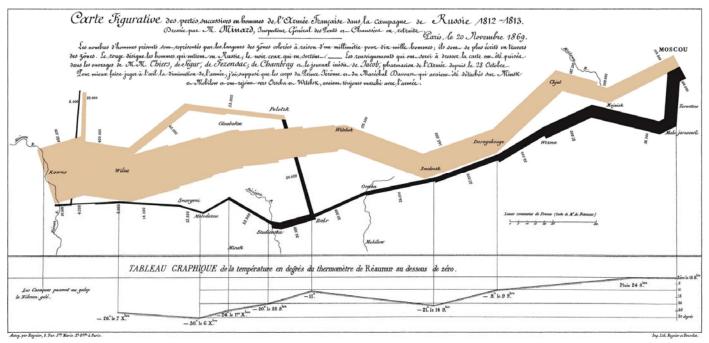

Figure 16: Minard's Graph of Napoleon's Russian campaign. (Cited by Edward Tufte,1983).

If necessity is the mother of invention then communication of quantitative research will soon undergo radical changes in visual display and representation. Data/Information Visualization and Visual Analytics is a fast developing field (see ESRC NCRM 3rd Research Methods Festival, session 26[10]). However, the quality of screen-based visual representation and visualisation is dependent on the quality of media hardware and software which accepts data and translates it into a visual display and importantly, an awareness of the dangers of misreading and misrepresenting visual display. Given the potential enormity of scale of international collaboration involving substantial data bases, close co-operation between software developers and end users will be essential. Moreover, visual representation and technology are dynamically related and play a pivotal role in the evolution of visual methods. Geographers have evolved visual representation skills through long term engagement with mapping[11] and we point to Google Map as an indicator of the usefulness of such tool to social geographers (not to mention the amount of fun they must be having). E-social Science (see ESRC NCeSS ~ http://www.ncess.ac.uk/) is also in the process of combining technology, representation and visualisation in order to enhance data integration. The opportunities for collaboration, the ability to deal with exceptionally large data volumes and real-time visualisation are dependent on the quality of visual representations[12].

6.2 Visual representation of visual research
Visual representation of data and findings in visual research is mostly in the form of photographs, film/video, flowcharts and diagrams but also involves, where appropriate, a wide range of visual media including cartoons, doodles, pictograms, pictographs, and advertisements. In the 1930s the Chicago School produced diagrams and concept maps that expressed the relationship between key themes and were useful in depiction of narratives or ethnography. Visual sociologists continue to use graphical representational techniques, increasingly including applying a schematic approach which represents the elements of a system using abstract, graphic symbols rather than through so-called realistic pictures (see Wagner, 2006). Figure 17 is typical of orthodox graphical display, and includes independent and overlapping circles (as per Venn diagrams), straight lines and explanatory text, to illustrate interconnecting themes (in this case four elements that constitute the visual culture of classrooms).

Cinema, DVD, TV
Fashion
Cars
Interior Design
Family Albums
World Wide Web
Mobile Phones

Wider Visual Culture

Teacher
Visual Culture

Text books
Exercise books
Diagrams
Wall Charts
Display
Room Layout

Past
Classroom
Visual
Culture

Future
Classroom
Visual
Culture

Screens
Data Streaming
World Wide Web
Paperless Schools

Pupil
Visual Culture

The Visual Culture
of Class rooms

Blogs
Doodling
Graffiti
Visualising
Cinema, DVD, TV
Podcasts
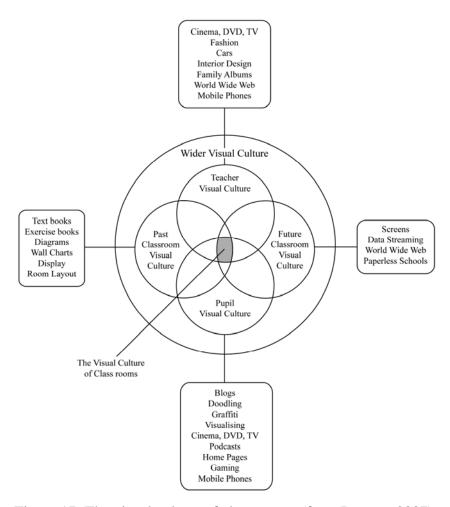Home Pages
Gaming
Mobile Phones

Figure 17: The visual culture of classrooms. (from Prosser, 2007)

Because visual researchers commonly use visual methods that include photography, photographs are most often included alongside visual-centric academic text. However, too often images are used to 'illustrate' a point well made in words and are consequently of little evidential value. Sekula (1982) suggested that the meaning of a photograph cannot be revealed outside the context in which it is disseminated. However, because images have multiple meanings and different audiences with different values and individual experiences will adopt their own interpretation, a researcher's preferred reading of a photograph is frequently signified by an accompanying conventional caption. The aim of the caption is to underpin the realist assumptions of the author and the 'tell and show' strategy, what Bal (1996) terms 'expository discourse', provides evidence of the image content's existence and for the author's point of view. Banks (2007, p 97) suggests a variety of possible options for researchers using images within and alongside text, whereas Chaplin (2006, 51) supporting Bal's position and, in posing the question 'to caption or not to caption', opts for no captions:

> . . . .what I have done in this article is to argue that captioning is a convention, that this convention is out of place in a post-positivist theory, and that it curbs the theoretical potential of photographs in visual sociology.

Clearly, the relationship between image and text, in representational terms, is an important one. There are very real ongoing dangers in attempting to tie down the meanings of images since time, audience, and context will render the task implausible (Banks, 2007).

The polysemic nature of images is widely accepted and clearly the relationship between words and photographs in academic dissemination is viewed as problematic. Photographs as evidence and proponents of the photo/documentary genre have also been questioned in terms of 'reality' and power differential and politics (the socially powerful creating records of the less powerful, see Rosler, 1989). The mimetic quality of photographs is overstated and the history of photography that represents external 'reality' is flawed (Solomon-Godeau, 1991). Moreover, according to Sontag (2003) photo-aesthetics, particularly glossy and visually attractive images, are inappropriate modes and represent the opposite suffered in terms of pain and anxiety, particularly when applied to such themes as refugees, rioting and prostitution.

Photojournalists, documentary photographers and visual sociologists offer counterclaims, arguing that their aim is to evoke a response from their audience by making memorable images. They claim that arresting images are memorable and provoke emotion even though they are temporal. Documentary photographs as communication and discovery are increasing rather than decreasing under questioning from the communicative concerns stemming from cultural studies, and critical theory. Sophisticated visual ethnographies, which address the matter of how images are constructed as well as the image as representation, are in the ascendancy. Intimacy, engagement or contrastive rhetoric (see Figure 18) rather than 'capturing a truth' or 'fixing a meaning', underpin the aspirations of the contemporary photo-essayist working within a visual sociology framework. As with quotes in traditional texts visual quotes need an introduction and an explanation that goes beyond sandbagging a particular truth. Schwartz, a visual sociologist, is very adapt at combining narrative and images for both orthodox academic journals and online mixed media presentations[13]. Armed with the skills of a photojournalist and analyst she uses photography as a counterpoint to taken-for-grantedness in photo-journalism. In *Contesting the Super Bowl*[14] Schwartz, with a team of nine like-minded colleagues, set out to provide a visual representation that questioned conventional visual representations of the Superbowl. Unlike word-based research where alternative arguments are contrasted and possibly balanced within the same text, Schwartz elected to adopt a photojournalistic mantle but visually represent an alternative viewpoint to the heavily marketed norm by juxtaposing powerful photographs with newspaper clips, quotes from key players both on and off the field and first-person accounts of their experiences. Schwartz is explicit about her beliefs from the beginning:

> I read the Super Bowl as a celebratory junction of corporate capitalism, masculinity and power that hegemonically affirms and perpetuates inequality. Certainly my outsider perspective was enhanced by my gender; I could find no compelling heroines among the token female sportscasters, the cheerleaders, or members of the Swedish Bikini Team.
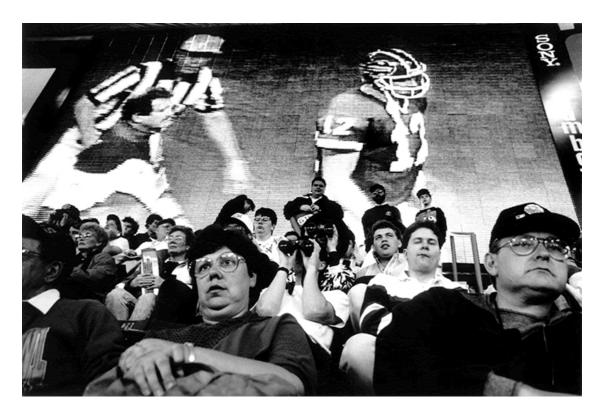>
> (Schwartz, 1997, p1)

Figure 18: Super Bowel Minnesota. Fit, health, enthusiastic, engrossed fans watch a major spectacle of the US sporting calendar? (photograph courtesy of Dona Schwartz).

So the study is not a dry balanced academic rendering of alternative viewpoints in text. Rather it explores the process of visual representation via documentary photographs (see Figure 18) through the perspective of an experienced and reflexive visual ethnographer and methodologist:

> The simple notion that photographs offer a mirror of reality has been shelved by most scholars and replaced by a more complex view of photographic communication. 1. Rather than residing in the image, photographic meaning emerges in the course of social interaction. 2. Photographs result from the social interaction between photographers and their subjects; each contributes to the image, and the circumstances surrounding the creation of the photograph helps to shape the outcome. Once the photograph has been created viewers engage in the activity of interpretation; the text offers a finite range of available meanings to which the spectator responds, negotiating an interpretation through the filter of his or her experience.
>
> (Schwartz, 1997, p1)

Whilst still photography is the most common form of visual presentation, alternative methods offer different benefits to social researchers. Video and film representation are generally the terrain of visual anthropologists and visual ethnographers and are discussed by Ruby (1979) Banks (2001) and Pink (2005). Digital delivery systems have changed the

way visual research is conducted and has opened up important and creative potential in terms of presentation for multimedia ethnographers (Ruby, 2005; Banks, 2007). Some multimedia presentations look little different from the usual linear printed page versions whilst others work in different media on different layers linked by hypermedia links. Blogs are sites of social and academic discussion and the establishment of virtual communities. Public research blogs are places to publish and disseminate research (see for example David Gauntlett's site: http://www.artlab.org.uk/). Chapter 8 of Sarah Pink's *Doing Visual Ethnography* (second edition) considers electronic texts and interestingly reflects on contemporary and future practice. The combination of text, images and technology combined with digital hypermedia[15] are part and parcel of many visual research projects and is arguably an indicator to the potential directions that visual research representation may take in the future. Multi-modal, multi-sensory research methods is a rapidly evolving area of visual studies and the potential for future innovative representational formats is significant (see Session 31, 2008 ESRC Research Methods Festival[16]).

7. Visual Ethics in Context

Due the relative newness of visually orientated research, there is limited agreement among ethics committees and visual researchers on ethical guidelines and subsequent practices. It is clear that around the world funding bodies, universities, academic departments, regional and local authorities and researchers are only now beginning to consider establishing comprehensive and viable visual ethics policies. This is no easy matter, since image-based research is comprised of a range of visual media applied in a multitude of ways and does not form a homogeneous set of technologies, procedures or techniques. Moreover, the context of social science research is itself changing, necessitating changes in ethical procedures. We would argue that the visual ethics vacuum should be filled, as a matter of urgency, with situated exemplars of good practice. The following sections will consider some of the key concerns faced by visually orientated researchers.

7.1 Ethics policy: some concerns about gatekeepers and their gates
Codes of practice, guidelines, frameworks and ethical committees around the world represent the formal face of research ethics. In the United States the National Research Act (1974) coupled behavioural and social research with biomedical research. Subsequently, Institutional Review Boards (IRBs) in the USA were set up to approve, monitor, and review biomedical and behavioural research involving humans with the aim of protecting the rights and welfare of respondents or subjects. They are empowered to approve, require modifications, or disapprove research on human subjects on ethical and regulatory grounds. Some visual researchers in the US do not view IRBs positively, believing board members view photographing people for research purposes pejoratively. There is also a belief that IRBs tend to attract membership from bureaucrats and legal specialist rather than active researchers. Lincoln and Tierney (2004) outline weaknesses in training and the misapplication of guidelines as reasons why IRBs inhibit and impede studies. Funding bodies in the UK now require universities to review all projects they fund to ensure they meet ethical criteria. Moreover, we would argue, there is a growing disparity between increasingly standardised and formalised practices around research ethics and the

increasingly complex nature and context of practice across social science research. Given the growing emphasis on multi-disciplinary and international research such disparity is of serous concern to practising researchers. Experience of IRBs and UK ethical committees suggests that future visual research is best served by proactive practitioners able to inform, educate and generally contribute to the effective functioning of ethical committees.

Becoming knowledgeable in visual ethics is no easy matter since what constitutes good practice in different contexts and different socio-political environments is not clear. There are few significant ethical benchmarks or support mechanisms for visual researchers. Not all institutions and departments have ethics committees and those that do may be overly restrictive and focused more on protecting sponsoring institutions or a particular academic institution than respondents and may only work within the prevailing methodological and epistemological orthodoxies. Codes of practice and guidelines applied by UK universities act as gatekeepers and offer a general ethical framework but are of limited use to visual researchers and may in practice work against them. There are two related reasons for this. This first is that university ethics committees vary in nature, their discretionary scope, their monitoring capacity/enthusiasm, and their application of sanctions in cases of transgression. The second reason is that committees comprise of members from epistemologically dissimilar academic disciplines who would scrutinise proposals differently and may look on minority (visual) methods judgmentally. However, viewed positively it could be said that institutional ethics committees will be knowledgeable on number and word-based ethics, some of which are transferable to visual ethics practices.

7.2 Visual ethics within word-orientated research ethics world
It can be argued that if the majority of visual researchers apply a combination of visual and non-visual methods, they should theoretically benefit considerably by adopting ethical principles that underpin qualitative studies, or at the very minimum, provide a series of reference points for them to use. The most common principles that underpin ethical codes of practice for qualitative researchers have been summarised as:

> Respect for person and the moral requirement to respect autonomy and the requirement to protect those with diminished autonomy; beneficence and complementary requirement to do no harm and to maximise possible benefits and minimise possible harms; Justice and the fair distribution of the benefits and burdens of research (Papademas, 2004, 122).

Whilst compliance with word-based orthodoxy is helpful, the establishment of protocols broadly acceptable to visual methodologists is crucial. Paradoxically, as research councils and funding bodies encourage and support applications from networks of researchers and expect proposals to be collaborative and interdisciplinary, establishing agreement on visual ethical protocols, which are acceptable to different cultures, universities, disciplines and methods, becomes more difficult. Additionally, the near-global adoption of visual methods and the use of sophisticated digitised technologies raise socio-cultural and legal issues such as storage, access and security of data, each requiring special consideration. From this perspective, a case could be made by those sceptical about the visual that the incorporation of visual methods is literally more trouble than it is worth.

Despite this pessimism, useful codes of practice published by professional associations, for example the British Sociological Association[17] provide a valuable resource acting as a foundation for ethical practice. The ESRC Ethical Framework[18] document is another valuable source of guidance. The ESRC also provide important insight into specific elements within ethics, for example, informed consent[19] and general ethics training[20] through the Researcher Development Initiative. Another avenue worth exploring is special interest groups with an interest in things visual: the British Sociological Association's Visual Sociology Study Group[21]; and the International Visual Sociology Association's[22] discussion group who regularly discuss visual ethics.

Although we have argued that word and numerical researchers' codes of practice can help in our search for ethical support, it is imperative that the visual research community (in all its heterogeneity) construct a set of guidelines which provides a solid basis for its work. It is at this juncture in the development of visual methodology that researchers can and should act professionally and supportively in relation to contemporary ethics discourse. If they are not viewed by the academic community as acting responsibly and with due care for respondents, a code will be imposed. The first major study of visual ethics, *Image Ethics: The Moral Rights of Subjects in Photographs, Film and Television*, edited by Gross, Katz, and Ruby (1988) covered aspects of creating and presenting visual information through photography. All thirteen provocative chapters are critical case studies of a high standard, being poignant reflections on media ethics and avoiding offering glib solutions. However, in February 1982 the flagship publication of the National Geographic Society, *National Geographic*, created much controversy when it used a Scitex computer digitizer to squeeze together two Pyramids to fit its vertical format. This was an early warning sign that the digital age was about to dictate changes in visual communication and image manipulation. As technology drastically transformed working practices so did the need to reflect on ethical, moral, professional and legal implications. A code of ethics governing mediated imagery and researching the internet is now usefully outlined by the Association of Internet Researchers[23], but it was Gross, Katz and Ruby (2003) again who provided the seminal text on image ethics in a digital age. In addition, the UK Data Protection Act 1998 affects visual researcher's use of photography. This is because an image of an individual is personal data for the purpose of the Act, and it is a requirement that consent is obtained.

7.3 Situated Visual Ethics
Ethics are traditionally seen as a set of general principles to be applied to different situations. This implies that researchers are able to adapt universal codes of ethics to fit complex situations. However, this injunction fails to take into account that all ethical acts are situated in socio-political contexts that require the researcher to make complex and sensitive decisions in particular cases and settings. Applied researchers have generally neglected this issue and hence there is a paucity of detailed case-based exemplars of how researchers came to the decisions they did. Visual ethics are best examined in concrete situations where multiple factors determine the boundary line between ethical and unethical, moral and immoral practice (Prosser, 2000; see also Papademas, D. 2004). Visual ethics are situated in practice and the social world lays multiple ethical and moral traps and poses multiple dilemmas. Visual researchers can shape their own situated code of

practice to meet their particular contexts and needs. Entering fieldwork being ethically prepared is not common practice among visual researchers. More often a general moral position is adopted which fails to take account of potential pitfalls ahead. Some are potentially serious: if cameras are handed out to respondents for 'photovoice' or 'shooting back' purposes and are returned showing illegal acts, significant crime or dangerous practices, what should the researcher do?

Some decisions researchers have to make are less serious and more along the lines of moral dilemmas. We admit during our fieldwork to being less than honest with participants on the grounds that our "commitment to viewing events, actions, norms and values etc from the perspective of those being studied" (Bryman 1988: 61) took precedence.

> We . . .used. . . a form of elicitation that entailed feigning recording a playground scene with a video camera with the express aim of recording children's comments which inimitably followed their question 'Wot yer doin' mister?' We answered "We're looking at who plays together and what games are played". Initially we felt justified in using this technique because it met our needs in terms of 'engagement' with pupils. However, this technique could not be justified in terms of sampling, since it attracted mostly self-assured and bumptious children, or ethically, so we changed to a mapping technique. (Prosser and Loxley, 2007, p 60)

This form of deception is common in photographic practices and the use of long lenses, 'shooting from the hip', and pointing a camera in one direction whilst taking a photograph at right angles via a mirror prism, go back over sixty years. The rhetoric of primacy of authenticity permeating our thinking undermined the unwritten social contract with the children and consequently diluted our professional ethics. Emergent visual ethics takes place during the research process and ethical issues arise in ambiguous situations. They may be hierarchical, reflect the differing goals of researchers and participants, and in some situations are not resolvable, reflecting the increasingly complex and fluid nature of contemporary qualitative research.

Visual sampling is another issue which requires special consideration. Is it possible that visual researchers choose the most able children to take photographs, involve articulate girls in photo-elicitation, allow noisy boys to dominate the use of digital technology because it is an easy and productive, if ultimately untrustworthy, option? Also, people with disabilities, especially those with intellectual impairment, are not usually represented in a sample of 'normal' people by non-visual researchers but nor are they likely to be asked to create images as part of a research project. Is this because of problems stemming from researchers' own perceptions and thinking that people with disabilities are unable to produce 'good' or aesthetically pleasing images, because people with diminished ability would fail to fully understand notions of informed consent or the implications of their actions? Informed consent is itself a difficult topic (see Wiles, Crow, Charles, and Heath, 2007) but in this case made more problematic by a visual dimension.

Legal, ethical and moral uncertainty takes various forms in visual research. Ensuring anonymity and confidentiality, for example, unless participants choose to be identified and made fully aware of potential repercussions, whilst common practice in social science, is highly problematic in visual research. If the data are to remain within the private domain of the researcher, this issue is less problematic. However, if the intention is to share the data (books, journal articles, conference papers etc) which is common for researchers, the process can become a very messy. For example, the blurring or cloaking of respondent's faces in photographs using a relatively simple pixel reduction technique is rarely sufficient to ensure anonymity and may not only defeat the object of taking the photograph but discriminates against respondents who want to be seen. Contextual or background information within a photograph depicting a person, for example street names, tattoos, distinctive jewellery, means that person may be identified. Whilst it is possible to restrict access to video, photographs and visual data posted on secure and encrypted websites, the ease with which images of people are copied, transformed and posted on through cyberspace ensures that no guarantee of anonymity and confidentiality can be made. Anonymity problems are not restricted to photographs and video or via the internet. Consider, for example, the drawing shown in Figure 19 where internal confidentiality (Tolich, 2004) is effectively breached. The family depicted will be easily recognised by members of a small community such as a school or village, because (a) the author's name, although hidden by a black pen, can be guessed by the size of the first and second name, and be seen when the paper on which the original is made, is held up to the light and (b) the drawing shows all the information required to identify a family of four, of mixed race, comprising two adults and two children of each gender and a mother with one leg:

Figure 19: A family's internal confidentiality breached?

There is strong agreement in word and number based research that researchers should protect the privacy of research subjects. Anonymity, traditionally (if problematically) assured through the use of pseudonyms, is not possible in visual research. This applies to found images, i.e. images already in existence, as well as those produced as part of fieldwork practice research project. Consider, for example, Figure 20. If this photograph was found in a junk shop in London is it acceptable to use it in a study research of family resemblance? There is usually no way of identifying the people in the photograph or contacting them to seek their agreement. It is worth noting that non-field-based researchers do not consider this to be a problem and have no qualms about using such images.

Figure 20: Is informed consent required for 'found' images?

There is a growing body of knowledge both in the form of annotated bibliographies[24] and specialist journals such as *Journal of Mass Media Ethics* (Lawrence Erlbaum Associates) and *Journal of Empirical Research on Human Research Ethics* (University of California Press) which provide broad guidance and general insight into research ethics and the increasingly complex and fluid nature of qualitative research. However, as the general context of qualitative research changes, visual researchers will additionally need to adopt strategies that help resolve the burgeoning visual ethical issues. Pragmatically speaking visual researchers will need to:

- agree a common and consistent notion of what constitutes 'good' ethical practice
- act ethically, morally, and reflexively
- develop case studies of situated visual ethics and share those experiences
- share the responsibility for ongoing and open debate so that visual ethical issues becomes more interactive, more proactive, and less defensive.

Our underlying concern is that the future of visual research will be curtailed if practitioners are seen to act unethically. In the worst case scenario IRBs and UK University and Higher Education ethical committees will curb the contribution to knowledge by visual research by:

- rejecting proposals that focus on vulnerable populations;
- giving special scrutiny to 'sensitive' (e.g. visual) projects;
- invoking a general medical model of ethics rather than a pluralistic model which distinguishes between different types of research;
- forcing visually orientated projects to change their focus i.e. to be less or non- visual;
- being overly legalistic, bureaucratic, and be more accepting of low no-risk research;
- being overly protective of sponsoring institutions or overly concerned by the possibility of respondents suing the researcher's institution.

There is no compelling evidence to support our above concerns, other than circumstantial evidence from the USA. It is our belief that visual researchers can and should take visual ethics seriously, thereby limiting the possibility of poor practice by UK ethics committees. It is in the best interests of qualitative research for visual practitioners to demonstrate a reflexive and professional approach to visual ethics. Contributing to exemplars of situated visual ethics practice and being open about problematic issues, will lead to a grounded understanding of good practice.

8. Summary

This paper was written for social scientists with little or no experience of visual methods. We recognised that in attempting to provide a resource useful to a cross section of academics and applied researchers we would necessarily sacrifice breadth for depth. However, whilst accepted the need to be very selective we have attempted to provide a balanced 'diet' containing something useful for everyone. Nevertheless, we felt unable to broach some topics out of a belief that a cursory rendition would have been futile. We decided not to include, for example, a discrete section on visual analysis (although some sections provided a glimpse into analytical frameworks and processes) since an in-depth rather than cursory discussion was required, and therefore, probably best examined in a separate paper.

Despite the paper's obvious limitations and weaknesses we hope that our enthusiasm and the potential for a critical application of visual methods in the social sciences is conveyed. However, whilst we believe in the significant contribution visual methods can make, we also feel it necessary to re-issue the 'health warning' made earlier: *there are many excellent ways of undertaking visual research and applying visual methods and what is prescribed here represents just one. Our advice is to ignore or at the very least treat with caution any visual researchers who claim theirs is the 'only', 'proper', or 'best' way.'* To this we would add one caveat: visual research and applying visual methods can be fun and exciting and this has possibly contributed to the approach becoming fashionable and

applied occasionally inappropriately. There is also a need to be wary of being drawn towards technological 'solutions' to essentially methodological problems. Finally, visual methods are difficult and complex and, as with word and number based methods, require a critical, reflexive and rigorous approach in order to be useful to social scientists. Becoming a more 'seeing' researcher is not an easy option.

Jon Prosser, Andrew Loxley.
July 2008.

Notes

(1) Noldus is a company that provide a wide range of features for data collection and analysis, *The Observer* can be applied to study observable behaviour such as activities, postures, gestures, facial expressions, movements, and social or human-system interactions. They can be found at: http://www.noldus.com/site/nav10000

Transana is "software for professional researchers who want to analyze digital video or audio data. Transana lets you analyze and manage your data in very sophisticated ways. Transcribe it, identify analytically interesting clips, assign keywords to clips, arrange and rearrange clips, create complex collections of interrelated clips, explore relationships between applied keywords, and share your analysis with colleagues." Transana can be found at: http://www.transana.org/

Tracksys is a company that provides research tools for scoring behaviour, video tracking, eyetracking and motion analysis as well as a range of specialist hardware and software for situation where behaviour is measured. They can be found at: http://www.tracksys.co.uk/

(2) The MiMeG (Mixed Media Grid) research node is based at the University of Bristol and King's College London and is an interdisciplinary collaboration between computer science, social studies and education. The project aims to generate tools and techniques for social scientists to analyse audio-visual qualitative data and related materials collaboratively.

(3) Proxemic refers to spatial relationships as an indicator of cultural behaviour.
    Kinaesthetic refers to posture/gesture/body language as a signifier of culture.

(4) http://www.mindapp.com/Pc/sample1.asp

(5) Caroline Wang website http://www.photovoice.com/index.html

(6) Jim Hubbard's work can be found at http://www.shootingback.org/. He teaches photography to street youth and conducts workshops around the world thorough universities and government agencies.

(7) Ewald works through Duke's Centre for Documentary Studies, USA. Website
    http//globetrotter.berkley.edu/Ewald/

(8) David Guantlett website www.artlab.org.uk ; www.theory.org.uk/david ; http://www.artlab.org.uk/videocritical/

(9) The team were led by Peter Hancock from the Psychology Department at the University of Sterling http://www.psychology.stir.ac.uk/ as part of the EvoFIT programme: http://www.evofit.co.uk/
The Michael Owen images are in the EvoFIT system (www.evofit.co.uk) which is now on trial with the police. Articles relating to that are on the website.

(10) See ESRC NCRM 3rd Research Methods Festival, St Catherine's College, University of Oxford, 2008, Data/Information Visualization and Visual Analytics: http://www.ncrm.ac.uk/RMF2008/festival/programme/visu/

(11) See, for example, grid-based visualisation for social science - geovisualisation and geosimulation work of Leeds, Aberdeen and London (ESRC NCeSS nodes), data visualisation (Lancaster node) and mixed media grids & visualisation of qualitative data (Bristol and Nottingham nodes). NCeSS can be found at http://www.ncess.ac.uk/

(12). See, for example, space mapping at: http://www.casa.ucl.ac.uk/ and at http://www.ncess.ac.uk/research/geographic/geovue/

(13) http://www.sjmc.umn.edu/aboutus/fac_dschwartz.html

(14) Schwartz's (2002) study *Pictures at a Demonstration* is also about power, process and dominant narratives. This time she reflects on her own identity and the complex and multiple roles she played out in order to reflect different perspectives and different images that constitute her visual essay. This study is represented in a multimedia visual narrative: www.picturestories.umn.edu

(15) See Bella Dicks and Ross, Holland, Renold, Hillman papers (Qualiti, Cardiff University) presentations at ESRC NCRM 3rd Research Methods Festival, St Catherine's College, University of Oxford, 2008, session 31, Multi Sensory Research Methods: http://www.ncrm.ac.uk/RMF2008/festival/programme/muls/

(16) Session 31, ESRC Research Methods Festival: http://www.ncrm.ac.uk/RMF2008/festival/programme/muls/

(17) http://www.britsoc.co.uk/
(18) http://www.esrc.ac.uk/ESRCInfoCentre/Images/ESRC_Re_Ethics_Frame_tcm6-11291.pdf
(19) http://www.sociology.soton.ac.uk/Proj/Informed_Consent/Resources.htm
(20) http://www.lancs.ac.uk/fass/ihr/events/esrcResearchTrainingProgramme.html
(21) http://www.visualsociologt.org.uk/
(22) http://www.visualsociology.org/

(23) http://www.aoir.org
(24) http://www.biad.uce.ac.uk/research/rti/ethics/bibliography.html

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