
VALIDITY IN IMAGE-BASED RESEARCH: A DELPHI STUDY

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Dissertation presented for the Degree of
Doctor of Philosophy (Social Science Methods)
at the University of Stellenbosch

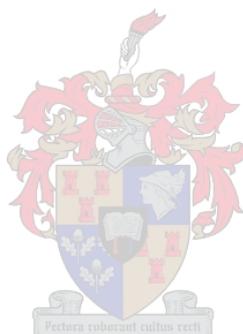
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December 2004

DECLARATION

I, the undersigned, hereby declare that the work contained in this dissertation is my own original work and that I have not previously in its entirety or in part submitted it at any university for a degree.

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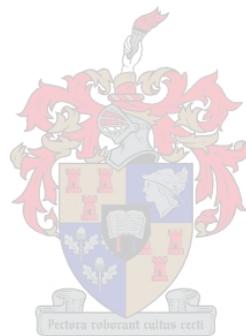
ABSTRACT

The area of study is the notion of validity in image-based research, i.e. research approaches where visual images such as photographs or video recordings form an integral part of one or more of the methods used. In the literature investigation chapters of the study, (1) the notion of validity is reviewed with special reference to contributions by Cook and Campbell, Guba and Lincoln, Kvale, Lather and Morse; (2) the inherent properties of visual images are discussed from a semiotic perspective, and (3) following a discussion of reflexivity in image-based research, the various domains of image-based research practice are demarcated according to the unit of analysis, the data format, the researcher role (outsider, insider, participant) and the production of the visual material (*ex ante* or *ex post* with weak or strong researcher control). The literature investigation chapters were taken as the point of departure for the development of a conceptual framework for assessing validity in image-based research, the mechanics of which are illustrated with reference to selected aspects of image-based research projects by Lomax and Casey, Clark and Zimmer, Rich and Chalfen, DuFon and Chaplin. The conceptual framework was refined on the strength of a Delphi study. The Delphi procedure involved canvassing and pooling the opinions of experts in the field of image-based research about issues of validity with a view to ensure that the assumptions made during the development of the conceptual framework fit sufficiently with image-based research practice. Flowing from the literature investigation chapters as well as the Delphi procedure, the central thesis of the study is that the notion of validity is in the first instance context-dependent and that this is compounded in the case of image-based research by the relative instability of iconic codes and the strong drift towards 'unlimited' semiosis inherent in the visual communication process.

OPSOMMING

Die studieveld behels 'n ondersoek na die gedagte van geldigheid soos van toepassing op beeldgebaseerde navorsing, d.w.s. navorsingsbenaderings waar visuele beelde soos foto's of video-opnames 'n integrale deel uitmaak maak een of meer van die metodes wat gebruik word. In die hoofstukke wat die literatuurstudie uitmaak, word (1) die gedagte van geldigheid onder die loep geneem met spesifieke verwysing na die bydraes van Cook en Campbell, Guba en Lincoln, Kvale, Lather en Morse, (2) word die inherente eienskappe van visuele beelde vanaf 'n semiotiese oogpunt bespreek, en (3) word die verskeie velde van beeldgebaseerde navorsingspraktyk afgebaken volgens die eenheid van ontleding, die dataformaat, die rol van die navorser (buitestaander, binnestaander, deelnemer) en die produksie van die visuele materiaal (*ex ante* of *ex post* met sterk of swak navorserkontrole). Die hoofstukke wat gemoeid is met die literatuurstudie is as vertrekpunt geneem vir die daarstelling van 'n konsepsuele raamwerk vir geldigheid aangaande beeldgebaseerde navorsing, en die werking hiervan is geïllustreer met verwysing na geselekteerde aspekte van beeldgebaseerde navorsing deur Lomax en Casey, Clark en Zimmer, Rich en Chalfen, DuFon end Chaplin. Hierdie konsepsuele raamwerk is verder verfyn op grond van 'n Delphi-prosedure. Die Delphi-prosedure het behels dat die opinies van deskundiges in die veld van beeldgebaseerde navorsing aangaande kwessies van geldigheid ingewin en saamgevoeg is met die oog om te verseker dat die aannames wat gemaak is ten tyde van die ontwikkeling van die konsepsuele raamwerk genoegsaam gepas is vir die praktyk van beeldgebaseerde navorsing. Die tesis van die studie, gebaseer op die uitkomst van die literatuurstudie en die Delphi-prosedure, is dat die gedagte van geldigheid konteks-afhanklik is, wat in die geval van beeldgebaseerde navorsing vererger word deur die feit dat ikoniese kodes relatief

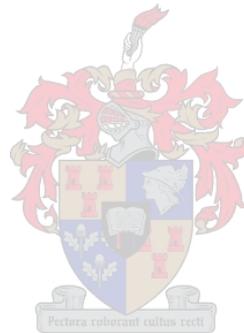
onstabiel is en dat die proses van visuele kommunikasie 'n sterk tendens na 'eindelose' semiosis toon.



ACKNOWLEDGEMENTS

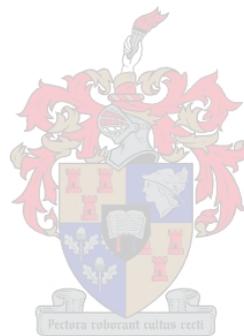
Special thanks are due to:

- ◆ My promoter
- ◆ The researchers who took part in the Delphi procedure
- ◆ Rebecca Fani for the literature retrieval
- ◆ My family and immediate colleagues for their support
- ◆ The National Research Foundation for financial assistance
- ◆ Louisemarié Combrink for the translation of the abstract.



Das ist das scheinbar Versöhnliche seiner Reflexionen, daß sie fast immer Licht und Schatten zeigen. Scheinbar; denn sie versöhnen den Widerspruch keineswegs. Sie halten ihn nur in der Balance, in einem Zustand wechselseitiger Befruchtung - Balance zwischen Denken und Schauen.*

- Max Frisch



That is the apparently reconciliatory quality of his reflections: that they almost always show both light and shadow. Only apparently, because they do not actually reconcile any contradiction at all. They just keep [the contradiction] in a state of balance, in a state of reciprocal pollination - balance between thinking and looking. (Max Frisch writing about Goethe's *Maximen und Reflexionen*, Frisch, 1985:201).

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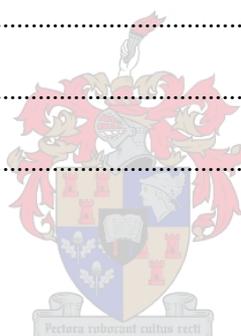
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CHAPTER 1

INTRODUCTION

1.1 Background

Image-based research broadly refers to research approaches where visual images such as photographs, video recordings or drawings form an integral part of one or more of the methods employed in the course of scientific inquiry (Prosser, 1998:1). Image-based research is thus located in an area of overlap between scientific inquiry on the one hand and visual literacy on the other hand (see Figure 1.1).

Visual literacy may be described as a defining feature of image-based research as both the production and the reception of the visual material used in the course of a research project are shaped (at different times and to varying degrees) by the visual literacy of the members of the research team, the study participants, the users of the research deliverables or other stakeholders (see, among others, Pauwels, 1991:205). Visual literacy has been defined by Braden and Hortin (1982:41) as 'the ability to understand and use images, including the ability to think, learn and express oneself in terms of images'. The main components of visual literacy are visual communication, visual thinking and visual learning (Seels, 1994:104). These may be defined as follows:

- ♦ Visual communication refers to the exchange of meaning through the use of visual statements, including the ability to express oneself in at least one visual discipline (Curtiss, 1987:41)

- ♦ Visual thinking refers to the organization of mental images around shapes, lines, colours and textures (Wileman, 1980:62), including spatial orientation skills, such as the ability to rotate a visual object mentally (Philleo, 1999:269)
- ♦ Visual learning concerns the role of visualization during the teaching-learning process, both during the presentation phase where visual images are used to facilitate information acquisition and during the assessment phase where images are used as an integral part of the assessment strategy (Dwyer, 1994:109).

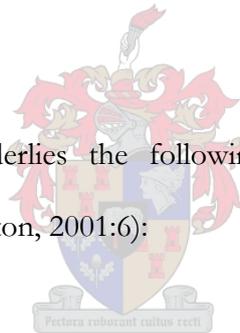
Visual literacy closely relates to the notion of visual intelligence, which refers to 'a quality of mind developed to the point of critical perceptual awareness in visual communication' (Barry, 1997:6). Visual intelligence highlights those critical reasoning skills that lead to a raised responsiveness to the potential wider implications that a visual image may have in a particular setting. In this sense, visual intelligence resorts under the visual communication component of visual literacy as it elaborates on one particular aspect of the visual communication process as a whole. For example, while a documentary photographer records everyday life in a community and publishes these images in a newspaper (i.e. the main components of the communication process as a whole), the photographer may become increasingly aware of the power relations between photographer and community and this raised alertness may prompt her/him to submit only those images for publication where the community members photographed gave informed consent for this to occur (i.e. visual intelligence).

In contrast, a second defining feature of image based-research is the epistemic interest. 'Epistemic' derives from the Greek term for 'truthful knowledge' and has been used synonymously with 'valid', 'plausible', 'conceptual fit' or coherence and

'empirical fit' or correspondence (Babbie and Mouton, 2001:8). According to McMullin (1983:16),

'... we can provide a tentative list of criteria that have gradually been shaped over the experience of many centuries, the values that are implicit in contemporary scientific practice. Such characteristic values I will call epistemic, because they are presumed to promote the truth-like character of science, its character as the most secure knowledge available to us of the world we seek to understand. An epistemic value is one we have reason to believe will, if pursued, help toward the attainment of such knowledge.'

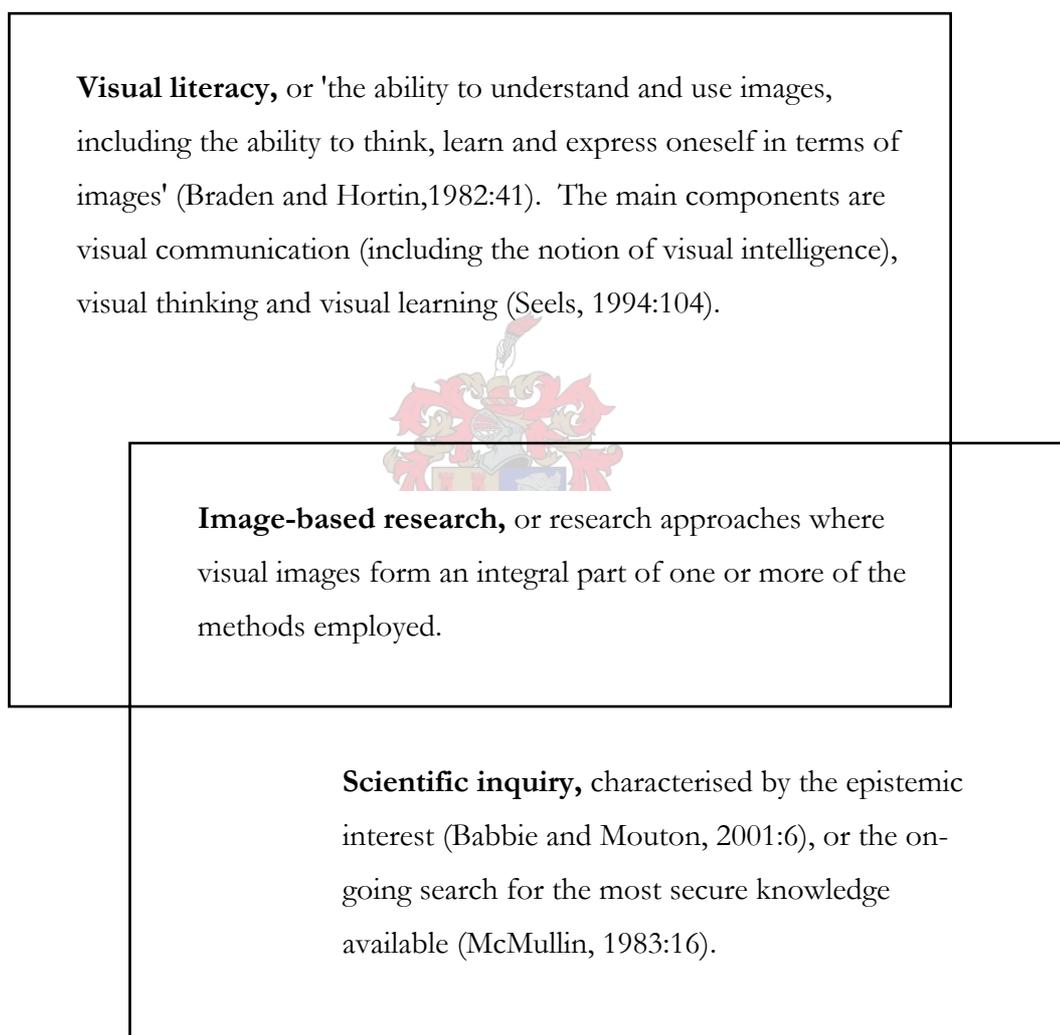
The epistemic interest underlies the following key characteristics of scientific knowledge (Babbie and Mouton, 2001:6):



- ◆ Scientific inquiry is based on the collective experiences of members of the research community as opposed to the observations and experiences of an individual
- ◆ Scientific knowledge is produced by systematic, methodological and rigorous inquiry in contrast to the haphazard fashion in which everyday knowledge may be acquired
- ◆ Science is not based on personal authority, the only authority that is accepted is the 'authority of the evidence'

- ♦ Scientific knowledge does not rest on second-hand sources and the scientific community is inherently sceptical. All claims are tested, irrespective of authority and origin.

Figure 1.1 Image-based research as area of overlap between scientific inquiry and visual literacy



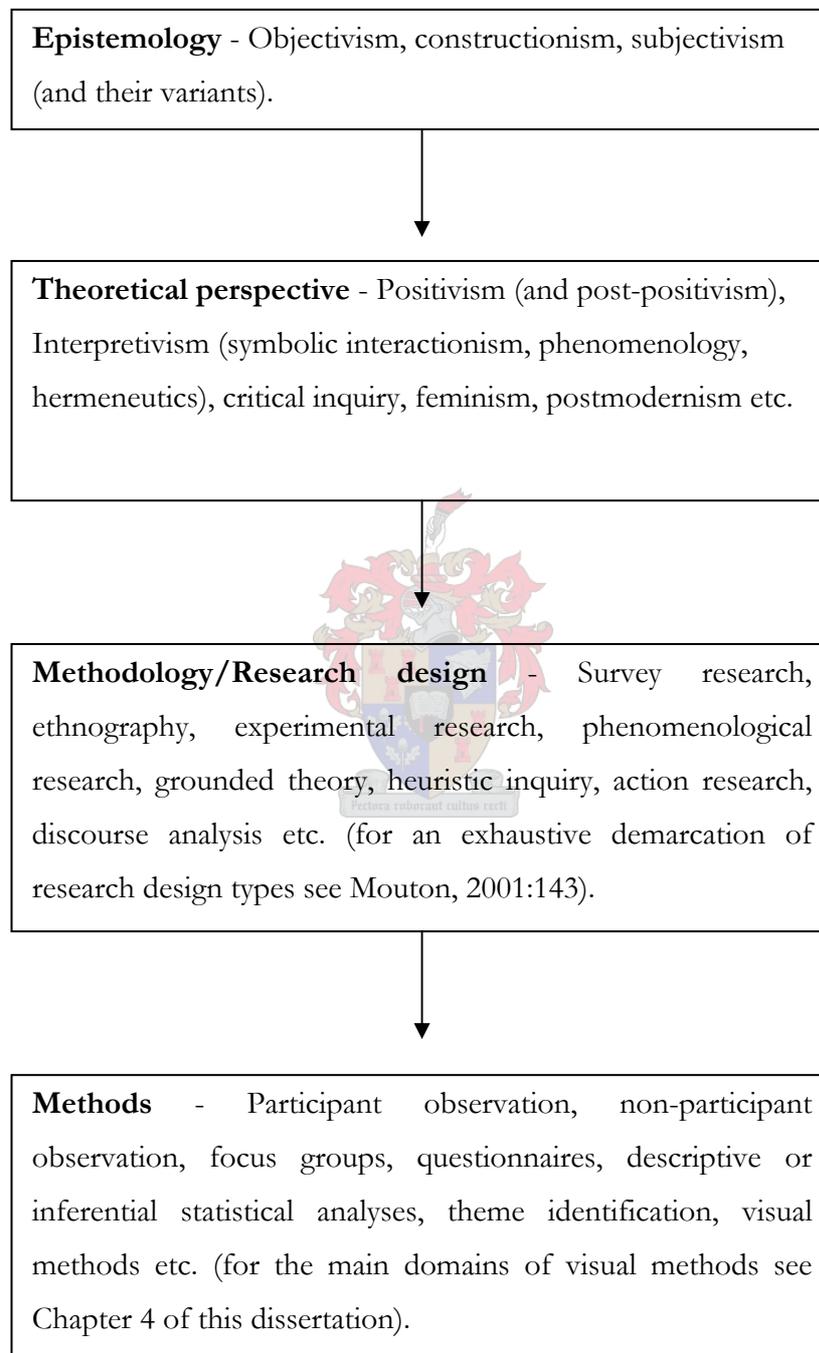
In common with all research, image-based inquiry has four basic elements (Crotty, 1998:2, see Figure 1.2). These are:

- ◆ Methods, or the techniques or procedures used to gather and analyse data related to a research question or hypothesis. In the case of image-based research, visual images form an central part of one or more of the methods used
- ◆ Methodology, i.e. the strategy, plan of action or design lying behind the choice and use of particular methods and the linking of the choice and use of methods to the desired outcomes
- ◆ Theoretical perspective, or the philosophical stance informing the methodology and thus providing a context for the process and grounding its logic and criteria.
- ◆ Epistemology, or the theory of knowledge underpinning the theoretical perspective and thereby the methodology.

Concerning the distinction between method and methodology, for the purpose of this dissertation image-based research is not considered to be a separate research design type distinct from other design types such as survey research, evaluation research, participatory action research and so on (see Mouton, 2001:143). By this is meant that, while pursuing the epistemic interest, visual images may in principle play a central role during either the data collection, analysis or presentation phases of the research design types identified, described and agreed on by the research community thus far. For example, visual material such as a video recording may be used as stimulus material during focus group interviews where, in terms of Crotty's (1993) framework, the methodology is ethnography, the theoretical perspective is symbolic interactionism and the epistemology is constructionism.

In addition to the four basic levels described by Crotty (1998), image-based research may be elaborated on with reference to the following dimensions of social research described by Mouton and Marais (1998:7):

Figure 1.2 The relationship between epistemology, theoretical perspective, methodology and methods according to Crotty (1998:4)



- ◆ The sociological dimension, where the emphasis is on research as a joint or collaborative activity
- ◆ The ontological dimension which stresses that research always has an (empirical or non-empirical) object and is directed at an aspect or aspects of social reality
- ◆ The teleological dimension that concerns the intentional and goal-directed nature of research
- ◆ The epistemological dimension where the emphasis is on the nature and origins of knowledge
- ◆ The methodological dimension which pertains to the systematic and controllable qualities of inquiry.

On the methodological dimension and at project level, visual images may in principle form part of the methods employed whether a predominantly quantitative, qualitative, participatory action or mixed method research approach is followed (Mouton and Marais 1998:20, see Tashakkori and Teddlie, 1998:15 for an overview of the evolution of methodological approaches in the social and behavioural sciences from roughly the nineteenth century until the 1990s). In practice, however, a review of the literature (see Chapter 5) indicates that the majority of recent completed studies in which visual methods were used belong in the first instance to the qualitative methodological paradigm and to a lesser extent to the participatory action research paradigm.

1.2 Rationale

Taking Figure 1.1 as a point of departure, the study of image-based research practice may be approached both from a visual literacy perspective (see, for example, Pauwels, 2000:7, who uses the term 'visual scientific literacy') or from a meta-scientific (or

reflection on scientific practice) point of view. From a meta-scientific perspective, one of the arguments against image-based research is that images are perceived as untrustworthy because the opportunities for manipulation are too great (Winston, 1998:60). In other words, the perception is that by incorporating visual images in a research project, the researcher runs the risk of significantly lowering the validity of the study as a whole. Validity refers in very general terms to the accuracy and trustworthiness of research (Altheide and Johnson, 1994:487, see Chapter 2 for more detailed definitions of validity) and is a criterion that applies to the whole research process, i.e. to the conceptualisation, operationalisation, sampling, data collection and analysis or interpretation phases of the research process (Mouton, 1996:109). Concerning, among others, the trustworthiness of visual images in research, Prosser (1998:1) writes that:



'The issues of 'representation', 'trustworthiness', 'interpretation', 'reflexivity' and others are highly contested in visual and non-visual research. Image-based research will appear more relevant to the wider research community if they are seen as shared problems to be resolved cumulatively rather than being treated as battlegrounds of twenty-first century methodological theory'.

In short, as a point of departure for this study issues of validity are seen as a gateway to the legitimisation of image-based research, because validity is both '... a limit question of research, one that repeatedly resurfaces, one that can neither be avoided nor resolved, a fertile obsession given its intractability' (Fraser, 1989:80 in Lather, 1993:674), and '...a boundary line that divides good research from bad, separates

acceptable (to a particular research community) research from unacceptable research... it is the name for inclusion and exclusion' (Scheurich, 1992:5 in Lincoln and Denzin, 1994:578).

1.3 Aims and objectives

Against the above background, the unit of analysis of the study as a whole is the concept of validity as applied to image-based research. Flowing from this, the specific aims of the study are:

- ◆ To review the literature on recent notions of validity. This literature review includes specifically notions of validity as utilized in image-based research
- ◆ To review the literature on image-based research with a view to map out the key domains of visual methods
- ◆ To develop a conceptual framework on the basis of the literature review that accommodates concerns and considerations regarding acceptable notions of validity in image-based research
- ◆ To refine the conceptual framework with a group of experts (i.e. researchers working with visual methods) by means of a Delphi study.

1.4 Design and methods

The study comprises a literature investigation and an empirical component. The literature investigation component covers a review of notions of validity as well as the main domains of image-based research. On the basis of the literature investigation, a conceptual framework for validity in image-based research is developed and then refined on the strength of the empirical component of the study. The empirical

component involves a Delphi study where the opinions of experts in the field of image-based research were canvassed about issues of validity. According to research design types delineated by Mouton (2001:143), the design type of this study may be described as primarily 'model-building'. With model-building studies, the main sources of error '...relate to the assumptions that are made in specifying the model, [and] the quality of the empirical data against which the model will be fitted' (Mouton, 2001:177). The inclusion of the Delphi procedure, which involves pooling the opinions of experts in a series of rounds, thus rests with the intention to ensure that the assumptions made during the development of the conceptual framework fit sufficiently with image-based research practice.

1.5 Overview of the remaining chapters

This introduction precedes the literature investigation chapters of the dissertation. In Chapter 2, recent notions of validity are reviewed. The chapter commences with a basic definition of the notion of validity, followed by a discussion of key contributions by Cook and Campbell, Guba and Lincoln, Kvale, Lather and Morse. The chapter ends with suggestions for an integrative approach to the notion of validity. Chapter 2 is followed by a semiotic perspective (Chapter 3) on the inherent properties of visual images, including an introduction to the notion of 'unlimited' semiosis. In Chapter 4, a discussion of reflexivity precedes an overview of the key domains of image-based research. In this chapter, existing models for classifying image-based research methods by Blinn-Pyke and Eyering and by Pauwels are taken as a point of departure for mapping out the domains of visual methods according to the unit of analysis, the data format, the role of the researcher and researcher control over the production of the visual material. Chapter 2, Chapter 3 and Chapter 4 were

taken as points of departure for the development of a conceptual framework for validity in image-based research discussed in Chapter 5. The chapter covers the elements of the conceptual framework, as well as an illustration of the mechanics of the framework with reference to selected aspects of studies by Lomax and Casey (1998), Clark and Zimmer (2001), Rich and Chalfen (1999), DuFon (2002) and Chaplin (1994).

Chapter 6 and Chapter 7 of the dissertation deal with the Delphi study. In Chapter 6, the design and procedures followed are made explicit. The chapter covers the strengths and limitations of the Delphi technique and elaborates on the identification and invitation of experts, the construction and refinement of the questionnaire and well as the approach adopted for the processing and analysis of the responses. In Chapter 7, an overview of the data generated in the course of the Delphi procedure is provided and the textual data that was collected is discussed. The chapter closes with a summary of the key outcomes of the Delphi procedure and a summary of the refined validity framework. The key outcomes feed into the final chapter, which ends the dissertation with discussions of the central thesis emerging from the study, as well as the core contribution that the study aims to make.

CHAPTER 2

THE NOTION OF VALIDITY IN SOCIAL SCIENCE RESEARCH

2.1 Introduction

This chapter covers five key contributions to the notion of validity in social science research. The five contributions are by Cook and Campbell, Guba and Lincoln, Kvale, Lather and Morse. The chapter commences with a basic working definition of validity and ends with an integrative approach that synthesises the key contributions discussed. While the chapter contains some references to image-based research, it does not specifically spell out which notions of validity are typically used in image-based research. This aspect is covered in Chapter 5, following a discussion of the inherent properties of visual images from a semiotic perspective in Chapter 3, as well as a description of the key domains of visual methods presented in Chapter 4.

Apart from Cook and Campbell, the authors discussed in this chapter are predominantly qualitative researchers. Among qualitative researchers, validity is returning as the term of choice to describe those aspects of scientific inquiry that relate to the quality of argumentation and, specifically, to the extent to which the reasoning surrounding an observation is based on sound logic. Mainly during the 1980s, when efforts to legitimise qualitative inquiry were at their height, prominent qualitative researchers argued that validity is a term pertaining to the quantitative methodological paradigm and thus not suited to qualitative inquiry, advocating the introduction of new terms such as ‘trustworthiness’ which contains the four concepts of credibility, transferability, dependability and conformability (Guba and Lincoln,

1981; Lincoln and Guba, 1985; Altheide and Johnson, 1998; Leininger, 1994; Rubin and Rubin, 1995 in Morse et. al., 2002).

There are currently several pleas among qualitative researchers for a return to the terminology of ensuring rigour that is used by 'mainstream science' (see Morse et. al., 2002), bearing in mind that some authors retained the term validity all along. One of these is Lather (1993:674), who wrote that '... rather than jettisoning validity as the term of choice, I retain the term in order to both circulate and break with the signs that code it'.

2.2 A basic definition of validity

Drawing from definitions of validity by Kirk and Miller (1986:80), Lather (1993:673), Mouton (1996:111), Reichertz (2000:3) and Mayan (2001:25), validity may be defined as *an epistemic criterion that applies to the entire research process and refers to those strategies of legitimising knowledge that rest on the quality of fit between observations, facts or data and the conclusions based on such observations, facts or data.* To elaborate:

- ◆ A central feature of the definition supplied is the notion of fit. According to Babbie and Mouton (2001:9), the term 'fit' (a) implies that a statement or claim may be more or less true, as opposed to the classical notion of 'truth' where a literal correspondence of a statement with reality is required, and (b) covers both conceptual fit or coherence, describing the relationship between statements, and empirical fit or correspondence, which refers to the relationship between a statement and the world. For example, a passport photograph may be accepted as valid when it depicts or represents the passport holder with sufficient accuracy (i.e. there is sufficient empirical fit or correspondence). On the other hand, one

passport photograph may be considered a valid copy of another photograph when the two images depict the passport holder with the same level of accuracy (i.e. conceptual fit or coherence). Regarding the notion of empirical fit, the direction of fit may be described in more detail, such as Searle's (1983) categories of a 'mind-to-world' direction of fit as opposed to a 'world-to-mind' direction of fit (in Smythe, 1987:160)

- ◆ The above definition stresses that validity refers to strategies and conditions of legitimising knowledge (Lather, 1993:673). Referring to validity in terms of defensible knowledge claims, Lather (1986:67) quotes Cronbach (1980), who writes that '... the job of validation is not to support an interpretation, but to find out what might be wrong with it. A proposition deserves some degree of trust only when it has survived serious attempts to falsify it.' According to Reichertz (2000:11), the main strategies of justification used by researchers are (a) referring to an authority, which may include a thorough literature review as well as undergoing a process of peer review, and (b) justification on the basis of specific methods and procedures used, such as triangulation (see Table 2.1 for the difference between method triangulation, data triangulation and investigator triangulation)
- ◆ As mentioned in the introduction, 'epistemic' refers to the 'truth-like' character of science, or the most secure knowledge available (McMullin, 1983:16). Defining validity as an epistemic criterion suggests that what logicians call a *semantic* concept of validity is used in the definition, as opposed to a *syntactic* concept of validity, which makes no reference to truth at all (Suber, 1997:1, see also Wharton, 2001). According to Suber (1997), the 'truth' of propositions and the validity of reasoning are distinct and that (a) true premises do not guarantee validity, (b) a

true conclusion does not guarantee validity, (c) true premises and a true conclusion together do not guarantee validity, (d) valid reasoning does not guarantee a true conclusion, (e) false premises do not guarantee invalidity, (f) a false conclusion does not guarantee invalidity, (g) false premises and a false conclusion together do not guarantee invalidity, and (h) invalid reasoning does not guarantee a false conclusion (see Table 2.2)

- ◆ In the working definition, validity is described as a criterion that applies to all stages of the research process, i.e. all research activities that have bearing on the quality of fit between observations, facts or data and the conclusions based on such observations, facts or data, (Mouton, 1996:109, see Table 2.3). The working definition is thus not in conflict with narrow definitions of validity, such as those that define validity as a criterion that only applies to procedures of measurement, in the sense that such narrow definitions are accommodated but transcended. An example of a narrow or limited definition of validity in Giorgi (1987:168) reads '*...validity and reliability are values related to measuring instruments used to obtain research data. An instrument is valid if it actually measures the concept it is supposed to measure and the instrument is reliable if it is consistent and gives the same measurement under the same conditions*'
- ◆ LeCompte and Preissle (1993:326, in McLean et. al., 1997:2) write that '*...we urge scholars to discover and formulate what their research philosophy is, [because] we believe that it is the only one factor contributing to how validity is defined*'. Radical forms of constructivism, for example, may entirely reject the need to validate, whereas in the positivist tradition validity is in the first instance a criterion that applies to the accuracy and meaning of measurement. In the case of the above supplied basic or working definition of validity, the underlying research

Table 2.1 Validity strategies in qualitative research by Johnson (1997)

Strategy	Description
Researcher as 'detective'	A metaphor characterizing the qualitative researcher searching for evidence about causes and effects. The researcher develops an understanding of the data through careful consideration of potential causes and effects by systematically eliminating 'rival' explanations until the final 'case' is made 'beyond a reasonable doubt'.
Extended field work	When possible / relevant, qualitative researchers collect data in the field over an extended period of time
Low inference descriptions	Descriptions are phrased very closely to the accounts of the participants or in the researcher's field notes. Verbatim transcriptions (or direct quotations) are a common form of low inference description.
Triangulation	'cross-checking' or corroborating information through the use of multiple procedures and sources.
Data triangulation	The use of multiple data sources.
Methods triangulation	The use of multiple research methods.
Investigator triangulation	The use of multiple investigators to collect and interpret data.
Theory triangulation	The use of multiple theories and perspectives to interpret and explain the data.
Participant feedback	The feedback and discussion of the researcher's interpretations and conclusions with the actual participants and other members of the participant community for verification and insight.
Peer review	This includes discussion of the researcher's findings and conclusions with a 'disinterested peer' or another researcher not directly involved. This peer should be sceptical and 'play the devil's advocate', challenging the researcher to provide solid evidence for an interpretation or conclusion. The alternative is a discussion with a researcher directly involved to achieve new insights.
Negative case sampling	Locating and examining cases that disconfirm the researcher's expectations and tentative explanations.
Reflexivity	This involves self awareness and 'critical self-reflection' by the researcher about potential bias and pre-dispositions as these may affect or contaminate the research process and conclusions.
Pattern matching	Predicting a series of results that form a 'pattern' and then determining the degree to which the actual results fit the predicted pattern.

Table 2.2 Checking the validity of reasoning using truth-tables (based on Suber, 1997)

General principle of logic	Description	Valid/ Invalid	Example
True premises do not guarantee validity	True premises, false conclusion	Invalid	Cats are mammals. Dogs are mammals. Therefore, dogs are cats.
Valid reasoning	True premises, true conclusion	Valid	Cats are mammals. Tigers are cats. Therefore, tigers are cats.
True premises do not guarantee validity. A true conclusion does not guarantee validity. True premises and a true conclusion together do not guarantee validity. Invalid reasoning does not guarantee a false conclusion.	True premises, true conclusion	Invalid	Cats are mammals. Tigers are mammals. Therefore, tigers are cats.
Valid reasoning does not guarantee a true conclusion. False premises do not guarantee invalidity. A false conclusion does not guarantee invalidity. False premises and a false conclusion together do not guarantee invalidity	False premises, false conclusion	Valid	Dogs are cats. Cats are birds. Therefore, dogs are birds.
Invalid reasoning does not guarantee a false conclusion	False premises, false conclusion	Invalid	Cats are birds. Dogs are birds. Therefore, dogs are cats.
False premises do not guarantee invalidity	False premises, true conclusion	Valid	Cats are birds. Birds are mammals. Therefore, cats are mammals.
A true conclusion does not guarantee validity	False premises, true conclusion	Invalid	Cats are birds. Tigers are birds. Therefore, tigers are cats

Table 2.3 Validity framework by Mouton (1996)

Stage in research process	Sources of error	Methodological 'move' or 'strategy'	Outcome / goal / end-product	Epistemic (validity-related) quality or criterion
Conceptualisation	Complex notions, vagueness, ambiguity, abstract concepts	Thorough literature review, clear and logical definitions	Concepts, definitions	Theoretical validity (clarity / scope)
Operationalisation	Poor sampling of items, leading questions, scaling errors	Scale validation, face validity, Pilot test	Measuring instruments	Measurement validity (construct validity)
Sampling	Bias, heterogeneous populations, incomplete sampling frame	Probability sampling, stratification, optimal sample size	Sample	Representativeness
Data collection	Observation effects, interviewer bias, respondent bias, context effects	Multi-method, proper training of field workers	Data sets	Reliability
Analysis / interpretation	Competing / rival conclusions or explanations	Appropriate techniques of analysis, thorough understanding of literature	Conclusions / results / findings	Inferential validity

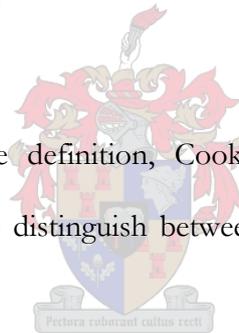
philosophy is predominantly post-positivism, as opposed to positivism, critical theory and constructivism (Deshpande, 1983:101).

2.3 Cook and Campbell

Cook and Campbell (1979:37) use the terms validity and invalidity:

'... to refer to the best available approximation to the truth or falsity of propositions, including propositions about cause ...[and that] we should always use the modifier 'approximately' when referring to validity, since one can never know what is true. At best, one can know what has not yet been ruled out as false.'

Proceeding from the above definition, Cook and Campbell (1979:39, see also Campbell and Stanley, 1963) distinguish between four key types of validity. These are:



- ◆ Statistical conclusion validity
- ◆ Internal validity
- ◆ Construct validity of putative causes and effects
- ◆ External validity.

These four types of validity link with four central questions typically facing a practicing researcher. Cook and Campbell (1979:39) phrase the questions as follows:

'(1) Is there a relationship between the two variables? [cf statistical conclusion validity] (2) Given that there is a relationship, is it plausibly causal from one operational variable to the other or would the same relationship have been obtained in the absence of any treatment of any kind? [cf internal validity] (3) Given that the relationship is plausibly causal and is reasonably known to be from one variable to another, what are the particular cause and effect constructs involved in the relationship? [cf construct validity] and (4) Given that there is probably a causal relationship from construct A to construct B, how generalizable is this relationship across persons, settings and times? [cf external validity]'.

Statistical conclusion validity closely relates to tests of statistical significance and decisions about whether a presumed cause and a presumed effect covary, which in turn logically precedes decisions about how strongly they covary. In this sense, Cook and Campbell (1979:41) refer to statistical conclusion validity as 'inferences about whether it is reasonable to presume covariation given a specified α level and the obtained variances'. Threats to statistical conclusion validity include low statistical power, violating the assumptions underlying a statistical test, the reliability of measures or 'stability', the reliability of treatment implementation, random irrelevancies in the experimental setting and random heterogeneity of respondents (Cook and Campbell, 1979:41, see also Campbell, 1969).

Secondly, internal validity deals with 'the approximate validity with which we infer that a relationship between two variables is causal or that the absence of a relationship implies the absence of a cause' (1979:37). Possible threats to internal validity described in some detail by Cook and Campbell (1979:51) are historical

events, maturation, test frequency, the instrumentation used, statistical regression, selection procedures, mortality of participants, ambiguity about the direction of the causal influence, diffusion or imitation of treatments, compensatory equalisation of treatments, compensatory rivalry by respondents receiving less desirable treatments and resentful demoralisation of respondents receiving less desirable treatments.

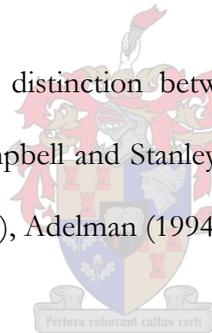
Thirdly, Cook and Campbell (1979:38) refer to construct validity primarily concerning the fit between conceptual definitions and research operations, or as 'the approximate validity with which we can make generalisations about higher-order constructs from research operations'. Construct validity relates closely to the notion of 'confounding'. For example, '...what one investigator interprets as a causal relationship between theoretical constructs labelled A and B, another investigator might interpret as a causal relationship between constructs A and Y, or between X and B, or even between X and Y' (1979:59). Construct validity is typically lowered as a result of an inadequate preoperational explication of constructs, mono-operation bias, mono-method bias, hypothesis-guessing within experimental conditions, evaluation apprehension, experimenter expectancies, interaction of different treatments, interaction between testing and treatment and the restricted generalizability across constructs (Cook and Campbell, 1979:64).

Lastly, external validity refers to 'the approximate validity with which we can infer that a presumed causal relationship can be generalized to and across alternate measures of the cause and effect and across different types of persons, settings and times' (1979:37). Threats to external validity include the interaction of selection and treatment as well as the interaction of historical events and the treatment (Cook and Campbell, 1979:63).

Concerning the four types of validity, Cook and Campbell (1979:82) write that:

'Some ways of increasing one kind of validity will probably decrease another kind. For instance, internal validity is best served by carrying out randomized experiments, but the organizations willing to tolerate these are probably less representative than organizations willing to tolerate passive measurement. Second, statistical conclusion validity is increased if the experimenter can rigidly control the stimuli impinging on respondents, but this procedure can decrease both external and construct validity.'

Specifically referring to the distinction between internal and external validity, as originally formulated by Campbell and Stanley (1963) and subsequently expanded on by Cook and Campbell (1979), Adelman (1994:159) notes that:



'Validity typologies are valuable in helping us to understand quasi-experiments and in bringing potential validity threats to our attention. However, we can move beyond traditional validity typologies in several ways: by honestly acknowledging our certainty and uncertainty in an inference, by being explicit about the reasoning underlying our inference from a low to high level of generalization, and by studying causal processes. Moreover, we can be aware that the useful lessons of a validity typology do not substitute for critical logical analysis.'

Adelman's comment raises the question which theoretical perspective (positivism, post-positivism, interpretivism, critical inquiry, feminism, postmodernism etc., Crotty, 1998:4, see Figure 1.2) would inform such a 'critical logical analysis'. In the case of Cook and Campbell, their research philosophy is made explicit. Cook and Campbell (1979:92) write that:

'... we of course agree with the critics of logical positivism. The philosophy was wrong in describing how physical science achieved its degree of validity, which was not through descriptive best-fit theories and definitional operationalism ... We join in the criticism of positivist social science when positivist is used in this technical sense rather than as a synonym for 'science'. We do not join the critics when they advocate giving up the search for objective, intersubjectively verifiable knowledge. Instead we advocate substituting a critical-realist philosophy of science, which will help us understand the success of the physical sciences and guide our efforts to achieve a more valid social science.'

2.4 Guba and Lincoln

The majority of authors that compare the notion of validity in the quantitative and the qualitative methodological paradigms cite the seminal work of Guba and Lincoln (see, among others, Patton, 1986; Krefling, 1991; Winter, 2000; Marian, 2002; Morse et. al., 2002). Guba and Lincoln's key contribution to our understanding of the notion of validity is that they systematically compare epistemological, ontological and methodological aspects of the positivist, post-positivist, critical theory and

constructivist paradigms of science and in this way contribute towards a broadening of the definitions of validity and reliability.

Specifically, Guba and Lincoln note that qualitative data collection procedures, such as participant observation, in-depth and open-ended interviewing or image-elicitation techniques, pose different validity challenges than is the case in quantitative approaches. Patton (1986:223) mentions that in qualitative methods, 'validity hinges to a greater extent on the skill, competence and rigor of the researcher because the observer or interviewer *is* the instrument'. Guba and Lincoln (1981:113) phrase it as follows:

'Since as often as not the naturalistic inquirer is himself the instrument, changes resulting from fatigue, shifts in knowledge, and co-operation, as well as variations resulting from differences in training, skill, experience among different 'instruments' easily occur. But this loss in rigor is more than offset by the flexibility, insight, and ability to build on tacit knowledge that is the peculiar province of the human instrument.'

Beyond the level of research instrument, Guba and Lincoln (1981 and later, see Morse et. al., 2002:2) argue that the nature of knowledge in the rationalistic (positivism, post-positivism/realism) or quantitative paradigm differs from knowledge in the naturalistic (critical theory, constructivism) or qualitative paradigm and that each paradigm requires its own paradigm-specific criteria for addressing 'rigour' (the term most often used in the rationalistic paradigm) or 'trustworthiness', Guba and Lincoln's parallel term for rigour. In a publication of 1994, Guba and Lincoln (1994:112) elaborate on the different paradigms as well as the divergent paradigm

positions on selected practical research issues, such as training, voice, ethics and inquiry aim. The inquiry paradigms and their ontological, epistemological and methodological ramifications are described by Guba and Lincoln as follows (see Table 2.4):

- ◆ Positivism denotes the 'received view' that has dominated the formal discourse in the physical and social sciences (for approx the past 400 years)
- ◆ Post-positivism represents efforts of the past few decades to respond in a limited way to the most problematic criticisms of positivism
- ◆ Critical theory is used by Guba and Lincoln as a blanket term denoting a set of several alternative paradigms, including (but not limited to) neo-Marxism, feminism, materialism and participatory inquiry. Critical theory may be divided into (a) post-structuralism, (b) postmodernism and (c) a blending of the two. What all these variants have in common is that inquiry is value-determined.
- ◆ Constructivism is characterised by ontological relativism as opposed to ontological realism.

Concerning the commensurability of the inquiry paradigms, Guba and Lincoln (2000:174) write that:

'Are paradigms commensurable? Is it possible to blend elements of one paradigm into another, so that one is engaging in research that represents the best of both worldviews? The answer, from our perspective, has to be a cautious *yes*. This is especially so if the models (paradigms) share axiomatic elements that are similar, or that resonate strongly between

Table 2.4 Basic Beliefs (Metaphysics) of inquiry paradigms according to Guba and Lincoln (1994)

Paradigm				
Item	Positivism	Post-positivism	Critical theory et. al.	Constructivism
Ontology	Naive realism - reality apprehensible	Critical realism - reality only imperfectly and probabilistically apprehensible	Historical realism - virtual reality shaped by social, political, ethnic, gender etc values and crystallised over time	Relativism - local and specific constructed realities
Epistemology	Dualist / objectivist, findings true	Modified dualist / objectivist, critical tradition / community, findings probably true	Transactional / subjectivist; value-mediated findings	Transactional / subjectivist; created findings
Methodology	Experimental / manipulative; verification of hypotheses, chiefly quantitative methods	Modified experimental / manipulative, critical multiplicity, falsification of hypotheses, may include qualitative methods	Dialogic / dialectical	Hermeneutic / dialectical

Note: According to Healy and Perry (2000:119), ontology is 'reality', epistemology is the relationship between that reality and the researcher, methodology is the approach adopted by the researcher to investigate that reality (adapted from Perry et. al., 1997:547).

them. So, for instance, positivism and post-positivism are clearly commensurable. In the same vein, elements of interpretivist/postmodern critical theory, constructivist and participative inquiry fit comfortably together. Commensurability is an issue only when researchers want to 'pick and choose' among the axioms of positivist and interpretivist models, because the axioms are contradictory and mutually exclusive.'

According to Guba and Lincoln (1994:112), quality criteria differ between the scientific paradigms as follows:

Quality criteria for the inquiry paradigm positivism and post-positivism

The appropriate criteria are the conventional benchmarks of 'rigour': internal validity (isomorphism of findings with reality), external validity (generalizability), reliability (in the sense of stability), and objectivity (distanced and neutral observer). These criteria depend on the realist ontological position (reality is 'real' but only imperfectly and probabilistically apprehensible), without the assumption, isomorphism of findings with reality can have no meaning, strict generalizability to a parent population is impossible, stability cannot be assessed for inquiry into a phenomenon if the phenomenon itself can change, and objectivity cannot be achieved because there is nothing from which one can be 'distant'.

Quality criteria for the inquiry paradigm critical theory

The appropriate criteria are historical situatedness of the inquiry (i.e. that it takes account of the social, political, cultural, economic, ethnic and gender antecedents of

the studied situation), the extent to which the inquiry acts to erode ignorance and misapprehensions, and the extent to which it provides a stimulus to action, that is to the transformation of the existing structure.

Quality criteria for the inquiry paradigm constructivism

Two sets of criteria have been proposed: The *trustworthiness* criteria of credibility (paralleling internal validity), transferability (paralleling external validity), dependability (paralleling reliability) and confirmability (paralleling objectivity) and the *authenticity* criteria of fairness, ontological authenticity (enlarges personal constructions), educative authenticity (leads to improved understanding of the constructions of others), catalytic authenticity (stimulates action) and tactical authenticity (empowers action). The former set, i.e. the *trustworthiness* criteria, represents an early effort to resolve the quality issue for constructivism. Although these criteria have been well received, their parallelism to positivist criteria make them suspect. The latter set, i.e. the *authenticity* criteria, overlaps to some extent with those criteria appropriate for judging the goodness or quality of an inquiry of critical theory but goes beyond them, particularly ontological authenticity and educative authenticity.

The validity criteria of the positivist paradigm and Guba and Lincoln's parallel 'trustworthiness' criteria in the constructivist paradigm may be compared in table form (see Table 2.5). In such a table, the core criteria for judging the quality of inquiry are truth value, applicability, consistency and neutrality.

Krefting (1990:217) defines the core criteria as follows:

Table 2.5 Comparison of criteria for judging quality (in Krefting, 1990)

Criterion	Constructivist paradigm	Positivist paradigm
Truth value	Credibility	Internal validity
Applicability	Transferability	External validity
Consistency	Dependability	Reliability
Neutrality	Confirmability	Objectivity

- ♦ Truth value refers to whether the researcher has established confidence in the 'truth' of the findings. Lincoln and Guba (1985) argues that the term 'internal validity' is based on the assumption that there is a single tangible reality to be measured. If this assumption is replaced by the idea of multiple realities, the researcher's task becomes one of representing those multiple realities revealed by informants as adequately as possible. The achievement thereof is termed credibility
- ♦ Applicability concerns the degree to which the findings can be applied to other contexts and settings or with other groups. In the positivist paradigm, applicability usually means the extent to which it is possible to generalise from the study population sample to a larger population and threats to external validity are typically linked to sampling technique. In the constructivist paradigm, generalizability may not be relevant. Where it is relevant, applicability refers to 'fittingness' or 'transferability' and is defined as the ability to transfer the findings of a study into contexts outside the study that are sufficiently similar or 'fit' the study context sufficiently well, suggesting that sufficient descriptive data (i.e. a sufficiently 'thick' description) needs to be supplied in the original study in order to allow for a meaningful comparison with other settings at a later stage

- ♦ Consistency refers to the stability of data. As opposed to the positivist paradigm, where measurement repeatability or reliability refers to a measurement instrument such as a thermometer that is not human, as mentioned earlier in the case of the constructivist paradigm as a general rule the researcher is the measurement instrument. Data stability is thus achieved by means of a dependable researcher, i.e. a researcher with 'trackable variability' (Guba, 1981), or variability made explicit
- ♦ Neutrality pertains to freedom from bias. In the positivist paradigm, researcher bias is reduced (or objectivity raised) through procedures such as randomization that lead to a researcher that is 'distant' and does not influence a study with his/her idiosyncrasies. In the constructivist paradigm on the other hand, researchers aim to raise the quality of the inquiry by decreasing the distance between researcher and informant or participant, for example by means of prolonged contact over an extended period of time. Confirmability refers in the first instance to the extent to which the data is uncontaminated by bias, as opposed to the degree of neutrality on the part of the researcher.

The strategy of prolonged engagement mentioned above is one of several strategies of raising the validity or trustworthiness of research. Johnson (1997) provides a list of such strategies, which include extended field work, low inference descriptions, triangulation (data triangulation, methods triangulation, investigator triangulation and theory triangulation), participant feedback, peer review, negative case sampling, reflexivity and pattern matching (for elaboration cf. Table 2.1).

As opposed to the *trustworthiness* criteria described above, Guba and Lincoln (1989, 1994) also specified, as mentioned above, *authenticity* criteria for the goodness

or quality of inquiry (or validity, reliability and objectivity) in the constructivism paradigm. These are:

- ◆ Fairness, or the extent to which different constructions and their underlying value structure are honoured
- ◆ Ontological authenticity, or the extent to which the informants or participant's own constructions are improved, matured, extended and elaborated over the course of the inquiry in the sense that they acquire more information and become more sophisticated in its use
- ◆ Educative authenticity, or the degree to which an individual informant's understanding of and appreciation for the constructions of others outside the study are enhanced
- ◆ Catalytic authenticity, or the extent to which action is stimulated and facilitated, or the degree to which the research process re-orientates, focuses and energises participants. Freire (1973) refers to this as 'conscientisation' or knowing reality to better transform it (see also Reason and Rowan, 1981; Brown and Tandom, 1978 in Lather, 1986:67)
- ◆ Tactical authenticity, or the degree to which the participants are empowered to act.

As Morse et. al. (2002:2) point out, the influential work of Guba and Lincoln has contributed to a 'plethora of terms and criteria introduced for minute variations and situations in which rigour could be applied'. This proliferation of parallel terms and new terms has created a confusing situation which 'has resulted in a deteriorating ability to actually discern rigour'. According to Morse et. al. (2002:2), this lack of

clarity may have contributed, especially in the 1980s, to the formulation of standards to evaluate research on a post-hoc basis (Creswell, 1997; Frankel, 1999; Hammersley, 1992; Howe & Eisenhardt, 1990; Lincoln, 1995; Popay et al., 1998; Thorne, 1997). Morse et al. (2002:3) write that:

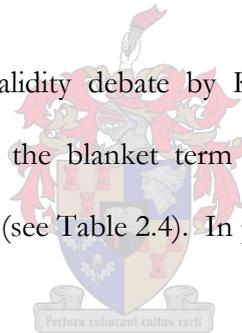
'Compounding the problem of duplicate terminology is the trend to treat standards, goals and criteria synonymously, and the criterion adopted by one qualitative researcher may be stated as a goal by another scholar. For example, Yin (1994) describes trustworthiness as a criterion to test the quality of research design, while Guba and Lincoln (1989) refer to it as a goal of the research. Later, researchers followed Guba and Lincoln's 1989 shift toward post-hoc evaluation, developing criteria as standards for evaluating the worth of a project or as evidence that rigour had been attended to in the research process (see, for example, Popay et. al., 1998). While strategies of trustworthiness may be useful in attempting to *evaluate* rigour, they do not in themselves *ensure* rigour.'

The relevance of Guba and Lincoln's contributions to image-based research is primarily that their global approach provides a useful framework for illustrating what role visual images may play in research (on the methods level, which is informed by the methodology level) by distinguishing between the four inquiry paradigms of positivism, post-positivism, critical theory and constructivism. As stated in the introduction, image-based research does not have its own epistemology, theoretical perspective or methodology and the defining features of image-based research are found on the methods level of inquiry.

As the majority of image-based research conducted to date resorts in the post-positivist, critical theory and constructivism paradigms, however, the quality criteria for assessing 'rigour', 'trustworthiness' or 'authenticity' of image-based research used by Guba and Lincoln are directly relevant. For the purpose of this dissertation, the disenchantment with duplicate terminology expressed by Morse et. al. (2002), which is seen as counter-productive, is acknowledged. In the remainder of this dissertation, the term 'validity' is retained in accordance with the view that introducing duplicate terminology 'marginalizes qualitative inquiry from mainstream science and scientific legitimacy' (Morse et al., 2002:3, see Morse, 1999).

2.5 Kvale

The contributions to the validity debate by Kvale come from a post-modernist perspective, resorting under the blanket term 'critical theory et al.' in Guba and Lincoln's (1994) terminology (see Table 2.4). In post-modernism,



'... the understanding of knowledge as a map of an objective reality, and validity as the correspondence of the map with the reality mapped, is replaced by the social and linguistic construction of a perspectival reality where knowledge is validated through practice' (Kvale, 1995:19).

Kvale's point of departure is to reiterate that the issue of what is valid knowledge involves the philosophical question of what is truth. According to Kvale (1995:22), in philosophy the three classical criteria of truth are (confer the discussion on the notion of fit in Section 2.2):

- ◆ Correspondence, or the extent to which a knowledge claim corresponds to the objective world
- ◆ Coherence, or the consistency and internal logic of an argument, and
- ◆ Pragmatic utility, which relates to the practical consequences of a knowledge claim.

Kvale approaches validity as investigation, communication and action (Kvale, 1989) and elaborates on (a) validity as quality of craftsmanship, (b) communicative validity and (c) pragmatic validity. These involve:

Validity as quality of craftsmanship

Kvale argues that the researcher is a 'craftsman' and that a researcher skilled in the research 'craft' produces valid, convincing, defensible knowledge claims, whereas an unskilled researcher produces amateurish, invalid, vulnerable knowledge claims. This means that the focus is on the competencies of the researcher, rather than on the methods used (apparently regardless of whether the researcher is one of the research 'instruments' or not). Kvale (1995:25) writes that:

'... the craftsmanship of the research and the credibility of the researcher becomes decisive as to whether other researchers will rely on the findings reported. The credibility of the researcher, based on the quality of his or her past research in the area, becomes an important aspect whether fellow researchers ascribe validity to the findings reported. Validity is not only an issue of the methods used, the researcher's person (Salner, 1989),

including his or her ethical integrity (Smith, 1990) becomes critical for the quality of the scientific knowledge produced'.

In a craftsmanship approach to validation, the emphasis is not introspection at the end of the production line, but on quality control throughout the stages of knowledge production. According to Kvale, to validate is to check, to validate is to question, to validate is to theorise (which are all activities carried out by the researcher).

Concerning the statement that 'to validate is to check', for example, Kvale (1995:25) refers to Miles and Huberman (1994), who emphasise that 'there are no canons or infallible decision rules for establishing the validity of qualitative research.' Miles and Huberman's (1994) list tactics to identify rigorously sources of potential bias that may invalidate qualitative observations and interpretations. The tactics, some of which replicate strategies listed by Johnson (1997, see Table 2.1), include checking for representativeness, checking for researcher effects, triangulating, checking the meaning of outliers, using extreme cases, following up surprises, looking for negative evidence, ruling out spurious relationships, replicating a finding and obtaining feedback from informants.

Communicative validity

Communicative validity refers to testing the validity of knowledge claims by means of dialogue. The notion of communicative validity rests on conversations about social reality, and what is valid is decided on through argumentation. In the paper of 1995, Kvale in a sense practices what he preaches concerning communicative validity by preceding the main body of the paper with a brief description of his own encounters

with the notions of validity and reliability from his student days onwards. For example, Kvale (1995:20) writes that:

'... when later travelling in the United States I learned other meanings of the terms validity and reliability; for example, when cashing a cheque in the supermarket being told that my European driver's licence was not valid as identification, or in an academic discussion that my argument was not valid. Or I might hear that the information about the used car I was looking at was not reliable, nor was the car dealer known as a reliable person' (1995:20).

By making his own encounters over time with the notions of validity and reliability explicit, Kvale sets the scene for a conversation or an argument about validity. While Kvale acknowledges that the notion of communicative validity begs many questions, such as what the power relations are between those who collectively decide what is valid, he also points out that validation through a community of scholars is nothing new. Specifically (1995:29):

'... in natural science, the acceptance of the scientific community has been the last, ultimate criterion for ascertaining the truth of a proposition. What is relatively new in qualitative research is the extension of the subjective community to include the subjects investigated and the general public, with the emphasis on truth as negotiated in a local context'.

Pragmatic validity

According to Kvale, pragmatic validity rests on a commitment to act on a knowledge claim. Kvale (1995:30) distinguishes between two types of pragmatic validation: (a) whether a knowledge claim is accompanied by action, and (b) whether a knowledge claim instigates changes in action. These types of pragmatic validity closely relate to the terms 'catalytic authenticity', or the extent to which action is stimulated and facilitated, and 'tactical authenticity', or the degree to which the participants are empowered to act (Guba and Lincoln, 1989). The concept of pragmatic validity thus goes further than mere agreement reached through dialogue, or communicative validity, to include a consideration of the practical ramifications of the knowledge claim, or 'validation through practice'.

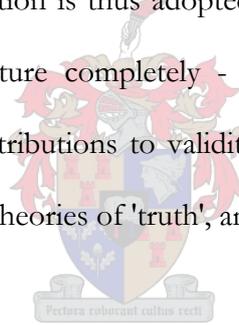
A second instance in the paper of 1995 where Kvale can be said to be practicing what he preaches is that, on the one hand, he states that 'to validate is to question', and, on the other hand, he then proceeds 'to question the validity of the validity question' (1995:26). Kvale argues that an unbalanced pre-occupation with validation is counterproductive and leads to 'validity erosion', in a similar way that giving too many assurances in ordinary speech inevitably leads to suspicion. Kvale provides the following example:

'... it is definitely true what I have told you; there is certainly nothing to be doubted, what I have told you is completely in accordance with the facts; there is no reason not to believe what I am telling you; I can prove every word I have said' (1995:34).

His argument is essentially that the quality research craftsmanship should be at the centre of attention, rather than a pre-occupation with verification, with the (ideal) result that the knowledge claims produced 'are so powerful and convincing in their own right that they so to say carry the validation with them' (1995:34).

2.6 Lather

Lincoln and Denzin (1994:585) refer to Lather's work on the notion of validity as post-structural, which, similar to Kvale, resorts under the broad term 'critical theory *et al.*' in Guba and Lincoln's (1994) framework on inquiry paradigms (see Table 2.4). With post-structuralism, language (including visual language) is viewed as an unstable system of referents, the position is thus adopted that it is possible to approximate - but impossible ever to capture completely - the meaning of an action, text or intention. Lather's main contributions to validity issues (1986, 1993, 1995) are thus opposed to correspondence theories of 'truth', and deal with (1993:675):



'... post-epistemic concerns [that] reframe validity as multiple, partial, endlessly deterred. They construct a site of development of a *validity of transgression* that runs counter to the standard *validity of correspondence*: a non-referential validity interested in how discourse does its work, where transgression is defined as 'the game of limits...at the border of disciplines, and across the line of taboo (Pefanis, 1991:85)'.

Lather elaborates on the notion of a validity of transgression by means of a simulacrum or checklist. She refers to a simulacrum (i.e. an image of something, a shadowy likeness, a deceptive substitute or mere pretence, Fowler and Fowler,

1975:1189), as 'copies without originals' (1993:677), where 'the referent [to what is represented] is secondary at best' (McGowan, 1991:18), and that:

'Simulacra wreak havoc with an obsessional economy. Unlike good copies, which identify themselves as counterfeit, simulacra (know enough) to keep quiet about their origins and are thus taken for the genuine article. They have this much in common with hysterical symptoms: to the uninitiated, the two are perfect fakes. Both are the bane of metaphysics because they collapse the distinction between original and copy, subtending binary logic and the law of degree' (Cummings, 1991:108).

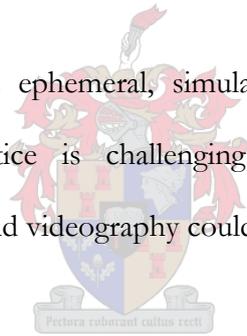
Lather's simulacrum of a validity of transgression covers (1993, see Lincoln and Denzin, 1994:585):

- 
- ◆ Reflexive validity, or a text's attempt to challenge own validity claims
 - ◆ Ironic validity, or a proliferation of multiple representations and simulations with equal weight
 - ◆ Neo-pragmatic validity, or an emphasis on dissensus, de-stabilizing the researcher's position as the master of truth and knowledge, later (1995) referred to as paralogical validity
 - ◆ Rhizomatic validity, or emphasis on multiple voices
 - ◆ Situated validity, or a validity of the disadvantaged or disempowered, based on self-reflexivity, later (1995) referred to as voluptuous validity.

Similar to Kvale, with Lather's notion of a validity of transgression the focus is on the researcher and not on the method. Lather (1993:676) writes that her validity simulacrum is:

' ... in effect a call for a kind of validity after post-structuralism in which legitimation depends on a researcher's ability to explore the resources of different contemporary inquiry problematics and, perhaps, even contribute to "an unjamming" effect in relation to the closed truths of the past, thereby freeing up the present for new forms of thought and practice' (Bennet, 1990:277).

The application of Lather's ephemeral, simulacrum-based notions of validity to image-based research practice is challenging. Specific examples relating to documentary photography and videography could include:



- ◆ The reflexive validity of an essay of documentary photographs may be raised by filming the photographer(s) at work and presenting this film/video material together with the documentary photographs. On a more conceptual level, the photographer may keep a written diary while on assignment or record what goes through her/his mind while busy working (e.g. on audio tape) in order to be in a position to make the personal awareness and technical and artistic objectives of the photographer explicit
- ◆ The ironic validity of a video article compiled with a view to produce a surrogate experience of a real-life event (Pauwels, 1999) may be raised by recording the event with multiple cameras and compiling a diagram or aerial plan that illustrates

the various camera positions. This diagram of camera positions may then be referred to when the visual material is analysed and presented thus making the strengths and limitations of multiple representations of the same event explicit

- ◆ The neo-pragmatic / paralogical validity of visual methods may be raised by asking a sample of the study population to validate the research report, i.e. to evaluate whether the conclusions drawn on the basis of visual material depicting the study population contain any inaccuracies, distortions or aberrant interpretations, thus destabilizing the researchers' role as sole master of truth and knowledge
- ◆ The rhizomatic validity of an essay of documentary photographs may be raised by commissioning more than one photographer in order to obtain multiple 'voices' to articulate their interpretation of the recorded event or setting through visual language
- ◆ The situated / voluptuous validity of visual methods may be raised by making, for example, power relations and ethical issues during the compilation of the visual material as explicit as possible.

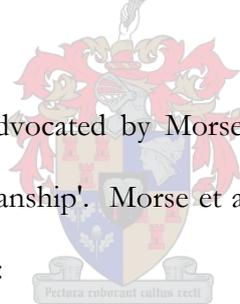
As Zeichner and Noffke (1998:4) point out, Lather's main contributions to the notion of validity rest on a call for the democratization of research, similar to the emancipatory agenda of participatory research, where 'decisions about what to study, how to study it, and the relations between researchers and other participants are worked out with greater respect for their voices and interests'.

2.7 Morse

A key distinction made by Morse et al. (2002) is between strategies aimed at evaluating validity (*post hoc*) on the one hand, and strategies of ensuring validity during the research process on the other hand. Flowing from a review of the contributions by Guba and Lincoln to the debate on rigour, Morse et al. (2002:3) argue that:

'We are concerned that, in the time since Guba and Lincoln developed their criteria for trustworthiness, there has been a tendency for qualitative researchers to focus on the tangible outcomes (which can be cited at the end of a study) rather than demonstrating how verification strategies were used to shape and direct the research during its development.'

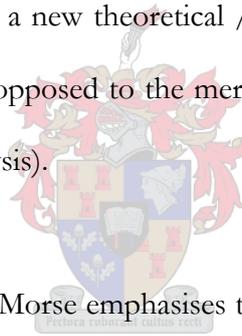
The verification strategies advocated by Morse closely relate to Kvale's notion of 'validity as quality of craftsmanship'. Morse et al. proceed from the observation that especially qualitative research:



'... is iterative rather than linear, so that a good qualitative researcher moves back and forth between design and implementation to ensure congruence among question formulation, literature, recruitment, data collection strategies and analysis. Data are systematically checked, focus is maintained, and the fit of data and the conceptual work of analysis and interpretation are monitored and confirmed constantly.'

The verification strategies outlined involve:

- ◆ Methodological coherence, or congruence between the research question and the components of the method
- ◆ Sampling adequacy and appropriateness, or ensuring sufficient saturation and replication of data (Morse, 1991), which serve as indicators that adequate data to account for the phenomenon being studied have been obtained
- ◆ Collecting and analysing data concurrently, or an iterative interaction between data and analysis
- ◆ Thinking theoretically, or continually changing between micro and macro perspectives, e.g. ideas emerging from data are confirmed in new data which may give rise to new ideas that in turn are verified in data already collected
- ◆ Theory development, i.e. a new theoretical /conceptual framework is one of the outcomes of inquiry (as opposed to the mere adoption of an existing framework to assist during data analysis).



Similar to Kvale and Lather, Morse emphasises the role of the researcher, rather than the method used. According to Morse et al. (2002:3):

"The lack of responsiveness of the investigator at all stages of the research process is the greatest hidden threat to validity and one that is poorly detected using *post hoc* criteria of 'trustworthiness'. Lack of responsiveness of the investigator may be due to lack of knowledge, overly adhering to instructions rather than listening to data, the inability to abstract, synthesise or move beyond the technicalities of data coding, working deductively (implicitly or explicitly) from previously held assumptions or

a theoretical framework, or following instructions in a rote fashion rather than using them strategically in decision making'.

The above-mentioned views by Morse et al. (2002) that the notion of validity applies to all stages of the research process, which may be iterative in nature, and that both (a) the *post hoc* evaluation of validity as well as (b) the verification strategies implemented while the research 'craftsman' (Kvale, 1995) is at work should receive equal attention link with Mouton's (1996) approach that a useful way of handling validity issues is to shift the focus from seeking to attain the 'best approximation to the truth' and to argue that 'the only feasible way to maximise validity is by either minimising or eliminating all foreseeable threats to validity in the research process' (Mouton, 1996:109, see Table 2.4). In the end, as Morse et al. (2002:5) phrase it:

'Regardless of the standard or criteria used to evaluate the goal of rigour, our problem remains the same: They are applied after the research is completed.... Standards and criteria applied at the end of the study cannot direct the research as it is conducted, and thus cannot pro-actively manage threats to reliability and validity'.

2.8 An integrative approach to validity

The above reviewed literature on the notion of validity suggests that two regulative principles govern how validity is defined. These are:

- ◆ Whether science is viewed as a body of knowledge, or
- ◆ Whether science is viewed as practice.

Elaborating on these two approaches, Mouton (1996:33) notes that:

'... when individual scientists, therefore, use the term 'methodology' they refer to the rules which apply in the research process. This is what Felix Kaufman means when he defines research methodology as the 'theory of correct scientific decisions'. And these decisions are taken to include questions about research design, methods of data collection, sampling design, data analysis, report writing, etc. Methodology, in this sense, raises questions about the appropriateness of specific research methods for specific research problems. Philosophers of science are not primarily interested in the concrete decisions taken by individual scientists, but rather in the time-space invariant properties of scientific systems. And even when philosophers of science do use the term 'methodology' they use it in a very specific sense as referring to the 'abstract' criteria of theory-appraisal, to 'abstract' principles of scientific explanation and inference, and NOT as practical rules of decision-making.'

Further, Da Costa and French (2000:125) spell out the dangers associated with each one of the two approaches and argue for a balance between extremes. They write that:

'...perhaps the most fundamental issue we are faced with in the philosophy of science is the representation of scientific practice. As philosophers, sociologists, historians or whatever, we are faced with this rich, complex practice, or set of practices, which are tied up with theories,

models, hypotheses, instruments etc. The issue then becomes how we are to 'get a handle' on, how we are to represent these elements in order to better understand this practice. At one extreme, we might employ a highly developed formal approach which seeks to represent various distinctions found in scientific practice in highly technical terms. The dangers of such an approach are well known: seduced by the scholastic angels dancing on the formal pinhead, we lose sight of the practice we are trying to understand. At the other extreme we might adopt an Austinian line, beginning with some nuanced taxonomy and describing the various ins and outs, differences and similarities of practice in ordinary language terms. The dangers here are equally well known: without a clear unifying framework, our account collapses into dry recitation of the 'facts' of practice - a kind of crude positivism at the meta-level. The obvious move is to a point between these extremes, where the desire for some unitary framework is balanced with the need to keep a close eye on scientific practice itself.

What is required, then, is an integrative approach to validity that accommodates both representational and non-representational (or performative) views of science (Pickering, 1995:5, see also Hacking, 1983). According to Pickering (1995:5), the representational idiom 'casts science as, above all, an activity that seeks to represent nature, to produce knowledge that maps, mirrors or corresponds to how the world really is' as opposed to a performative image of science, in which '... science is regarded as a field of powers, capacities and performances, situated in machinic captures of material agency' (1995:7).

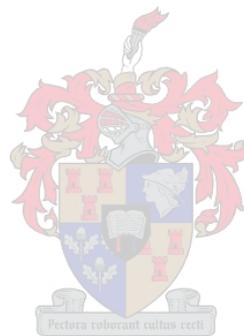
In other words, an integrative approach to validity would accommodate validity threats relating to what Pickering calls 'the mangle of practice'. Pickering's metaphor of a mangle:

'... conjures up the image of unpredictable transformations worked upon whatever gets fed into the old-fashioned device of the same name used to squeeze the water out of washing. It draws attention to the emergently intertwined delineation and reconfiguration of machinic captures and human intentions, practices, and so on. The word 'mangle' can also be used appropriately in other ways, for instance as a verb. Thus I say that the contours of material and social agency are mangled in practice, meaning emergently transformed and delineated in the dialectic of resistance and accommodation.' (Pickering, 1995:23).

2.9 Summary and Conclusion

This chapter dealt with literature on the notion of validity and elaborated on contributions by Cook and Campbell, Guba and Lincoln, Kvale, Lather and Morse. The chapter commenced with a basic working definition of the notion of validity and ended with an integrative view of validity. While, apart from Cook and Campbell, the remaining four contributions discussed in this chapter may be described as predominantly qualitative researchers, rigid adherence to either the qualitative or the quantitative methodological paradigm is becoming atypical. According to Mouton (1999:107):

'...although it might be true that certain social researchers hold very strong (sometimes dogmatic) views on the nature of social inquiry which make it impossible for them to use qualitative and quantitative methods in one study, these cases are increasingly becoming the exception to the rule. Such an exclusivist position is usually based on strong adherence to a specific philosophical paradigm (phenomenology, humanism, post-modernism, positivism). More often than not, however, social researchers are much more pragmatic and eclectic in their selection of methodologies.'



CHAPTER 3

ICONIC CODES IN SOCIAL INQUIRY

3.1 Introduction

In this chapter, the focus shifts from the notion of validity in social science research to a review of the core inherent properties of visual images, or their iconicity. In the first section of the chapter, the emergence of image-based research is briefly discussed with reference to the main methodological movements since the late nineteenth century. The chapter proceeds with an acknowledgement of debates surrounding issues of representation in general before adopting a semiotic perspective of visual texts and the properties of iconic signs, i.e. signs where a sufficiently high degree of (visual) similarity between the representamen and its object is considered to be of value for the purposes of a particular study. In the last part of the chapter, the notion of 'unlimited' semiosis as applied to iconic codes is discussed with reference to Johansen's (1993) model of dialogic semiosis and illustrated with reference to examples drawn from the Denver African expedition of 1925.

3.2 The emergence of image-based research

Teddlie and Tashakkori (2003:4) identify three key methodological 'movements' in the social sciences since the late nineteenth century, i.e. the quantitative, qualitative and mixed method orientations. Up until the first half of the twentieth century, the quantitative methodological orientation was dominant and scientific inquiry was more often than not based on the positivism paradigm (cf. Table 2.4). From the 1950s onwards, the 'received' positivist paradigm increasingly lost dominance as the qualitative research orientation, based primarily on the constructivist paradigm, gained

widespread acceptance. Teddlie and Tashakkori (2003:5) suggest that following the 'paradigm wars' of the 1980s and the eventual loss of currency of the incompatibility thesis stating that it is inappropriate to mix quantitative and qualitative methods due to inherent differences in the philosophies that underlie them (see Gage, 1989 and Smith, 1994), mixed method research, or the 'third methodological movement' (Teddlie and Tashakkori, 2003:45), is increasingly gaining recognition and prominence next to the quantitative and the qualitative methodological orientations.

Milestones in the emergence of image-based research from the late nineteenth century onwards link with these methodological trends. Prosser (1998:100) points out that while anthropology and sociology were both founded at the time when early photographic processes were being developed, visual sociology only emerged in the 1960s in contrast to visual anthropology, which had its beginnings in the late nineteenth century. Visual sociology is primarily a subfield of qualitative sociology (Harper, 1994:403), and the emergence thereof in the late 1960s and early 1970s thus clearly coincides with the increased acceptance of the qualitative research orientation during that time (Teddlie and Tashakkori, 2003:5).

Visual anthropology, on the other hand, was shaped primarily by methodological trends in anthropology (Prosser, 1998:100). These include the shift from an 'armchair discipline' to the increased study of actual communities, involving field work, by the 1920s (MacDougall 1997:276), as well as the move in the middle of the twentieth century from an emphasis on the realism of the visual material, based on conservative paradigms of a positivist scientific tradition, to 'approaches that engage with subjectivity, reflexivity and the notion of the visual as knowledge and a critical voice' (Pink, 2003:180, reflexivity in image-based research is discussed in greater detail in Chapter 4). Among influential projects that illustrate some of these

shifts in methodological orientations in visual anthropology discussed by Pink (2003) are Flaherty's film *Nanook of the North* (1922), Mead and Bateson's photographic study *Balinese Character* (1942), Evans-Pritchard's use of images in *The Nuer* (1940), as well as Worth and Adair's *Through Navajo Eyes* (Worth and Adair, 1972).

An alternative approach to map out the emergence of image-based research is with reference to what Harper calls a 'history of recorded perception' (2003:177). According to Harper (2003:178), significant milestones in image-based research include the invention of photography in the nineteenth century, the ability to link separate images in order to produce rudimentary films by the end of the nineteenth century, the addition of sound to film by the 1930s, the increased use of video from the early 1980s onwards, as well the recent introduction of hypertext and interactive CD-ROM technology. Concerning these advances in imaging technology, Harper (2003:181) writes from a visual sociology perspective that:



'Because visual sociology comprises images and science, it is appropriate that we study the relationship between these elements. The images that visual sociologists make are also part of these issues; we should study our own work as part of the study of visual society. As new technologies alter what and how we see (even changing the nature of sight, reality and imagination), the issues will become both more complex and more important.'

That is not to say that visual methods have only been used in the academic disciplines of anthropology and sociology. A recent survey of the use of visual messages in the social and behavioural sciences by Rosenstein (2002), for example, cites studies from

a large variety of disciplines including child psychology, nursing, teacher training, performing arts, urban planning and programme evaluation. According to Rosenstein (2002:8), the utilisation of visual images in research may be placed into three categories. These are the use of visual messages (1) for purpose of observation, as extensively used in visual anthropology and sociology, (2) as a feedback mechanism and (3) as a tool for distance learning or consultation, see Table 3.1.

Table 3.1 Use of visual messages (mainly video) in the social sciences (based on Rosenstein, 2002:8)

Use	Examples (in chronological order)
Observation and analysis	Mead and Bateson (1942); Birdwhistell (1952, 1970); Hall (1969); Worth and Adair, (1972); Kritzer and Blumberg (1974); Zube (1979); Peery and Crane (1980); Erickson (1982); Hoover (1984); Heath (1984); Albrecht (1985); Collier and Collier (1986); Leinhardt (1986); Dershimer and Conover (1989); Duker (1991); Dorr-Bremme (1992); Terrel, Jorgenson, and Wakelin (1992); Martin (1994); Rodriguez and Lana (1996); Hartman (1996); Ino (1998); Clandinin and Connelly (1998); Gulek (1999); Maor (2000).
Feedback for performance assessment	Allen & Ryan (1969); Rogers (1987); Davis et al. (1988); Bennett (1989); Waggoner and Schneid (1989); Ives (1989); Deasy et. al. (1991); Meerwein et al. (1991); Hougham (1992); Quigley & Nyquist (1992); Haertel (1993); Stryk and McCoy (1993); Decker (1993); Lawrence (1994); Cashwell (1994); Hammer (1995); Kovach (1996); Mohnsen and Thompson (1997).
Feedback for interactional assessment	Berger (1978); Amatea et. al. (1980); Fichten and Wright (1983); Iverson (1986); Erickson (1992); Weiner et al (1994); Aaraas et. al. (1993); Aruazo et. al. (1994); Cheung (1997); Keyes (2000); Caris-Verhallen et al (2000).
Feedback for situational assessment	Kritzer (1974); Anderson (1988), Bessette and Tighe (1988); Goodwin and Goodwin (1989); Kleinfeld and Noordhoff (1990); Walmsley and Neilsen (1991); Sanders and Dadds (1992); Messina and Fagans (1992); Pailliotet (1995); Firme et al (1997); Kuhne and Quigley (1997); Rosenstein (1997, 2000); Carraher, Nemirovsky et. al. (1999).

3.3 The problem of representation

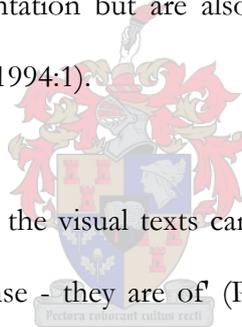
Image-based research - or the insertion of visual texts in the course of a research project - also links with broader philosophical and meta-theoretical literature on issues surrounding representation. Current debates in this field usually refer to representation as a problem to be investigated, which is a move away from the traditional discourse of representational metaphysics where, for example, thought is considered the representation of reality and language the representation of thought (de Beer, 1991:124). In this regard, de Beer (1991:125) writes that:

'For a variety of reasons this structure of representation with its inevitable supposition of an extra-representational referent - existing independently of and prior to all representation - is being increasingly and from diverse quarters called into question. Such interrogation of the model of representation implies its dislocation from its traditional status as a self-evident certainty to a problem to be investigated.'

The majority of definitions of the notion of representation, such as mimesis, proxy, recurrent presentation or simply 'making present what is absent' (Ankersmit, 2000:149), flow from a 'hierarchy of prototype and model' (Viljoen, 1995:45), where the prototype is seen as original and authentic whereas the model is secondary and non-authentic. A detailed definition of representation by Botha (1995:103) refers to representational practices as human attempts at conveying reality based on knowledge formed when a model of knowing is projected onto reality within a particular framework of schemata and paradigms. Botha (1995:103) points out that where representation occurs in a research setting, the relevant framework of schemata and

paradigms needs to accommodate the norms and values of the research community and the role of inquiry paradigms such as positivism, post-positivism, critical theory and constructivism as discussed in the previous chapter, see Guba and Lincoln (1994:112). Where the representational practices involve visual representation, the visual texts:

'... do not reflect their sources but refashion them according to pictorial and textual codes, so that they are quite separate from, and other than, those sources. Further than this, "representation" can be understood as articulating and contributing to social processes. These social processes determine the representation but are also consequently influenced and altered by it' (Chaplin, 1994:1).



The conditions under which the visual texts can be said to represent 'whatever it is that - in the appropriate sense - they are of' (Phillips and Wollheim, 1996:222) are typically elaborated on with reference to one or more theories of visual representation. According to Phillips and Wollheim (1996:222), the main theories of visual representation are:

- ◆ The *resemblance theory*, according to which a visual text represents something or someone (or a referent) on the basis of sufficiently 'looking like' the referent, or because the visual text produces an experience that is very similar to the experience of looking at the referent itself. This approach links with the notion of iconicity discussed in the section 3.4

- ◆ The *information theory*, where the visual text is said to represent a referent because it conveys to the viewer/reader the same information that the viewer/reader would receive if he/she were actually looking at the referent itself
- ◆ The *seeing-in theory* according to which a visual text represents a referent only if the viewer/reader actually sees or is aware of the referent in the visual text. This approach links with the notion of pertinence discussed in section 3.5.
- ◆ The *semiotic theory* where a visual text represents a referent on the basis of a proxy or 'stand for' relationship in the context of a sign system governed by established conventions. The semiotic approach to visual communication is described further in section 3.4.

Apart from semioticians such as Barthes and Eco (see sections 3.4. and 3.5), key theorists, mainly from outside the discipline of the social sciences, that have challenged conventional assumptions regarding the notion of representation include Baudrillard, Derrida, Bourdieu, Foucault and Lyotard. Briefly, prominent examples are:

- ◆ The notion of simulacra as described by Baudrillard (1981, 1985, 1994) and the argument that an implosion of meaning occurs when that which is perceived to be reality is in fact vacant of substance and is preceded and survived by abstraction (Beresford, 2000:493). Baurillard (1994:6) describes four successive 'phases of the image' (see Beresford, 2000:479), where (1) the image reflects a profound reality, (2) the image masks and denatures a profound reality, (3) the image masks the absence of a profound reality, and, lastly, (4) the image has no relation to any reality whatsoever; it is its own pure simulacrum

- ◆ The critique of logocentrism by Derrida (1977, 1978, 1980, 1981) flowing from his opposition to the classical philosophical view that the foundations of western culture are determinable because they can be represented, suggesting instead that dissemination, unlike representation, does not depart from meaning but makes it possible. According to de Beer (1991:29), Derrida sees the foundations of western culture as not determinable 'because of reading and writing between the lines, between words, in the margins as well as within the gaps between texts, and that such dissemination of meaning amounts to a radical dispossession of meaning'. Derrida's critiques of the sign theories by De Saussure and Husserl also stand out as important contributions to the debate about the problem of representation, see Viljoen (1995:53)
- ◆ The notion of habitus by Bourdieu (1977, 1984, 1990), and the argument that a repository of embodied rituals of everyday life is formed through a mimetic process of acculturation where the 'rules of the game' are internalised and become second nature. In other words, the habitus is 'the presence of the whole past of which it is the product' (1990:5). The notion of habitus is clearly relevant to the problem of representation as it deals with the limits of intelligibility of a text as they are established through social practices, or as Medina (2003:313) puts it, the 'boundaries around that which is thinkable and intelligible'
- ◆ The analysis of power relationships reflected in the representation of knowledge by Foucault (1974, 1977, 1980). Foucault's approach to the representation of knowledge as a historical construct and his appeal for stressing discontinuities as opposed to the conventional historian's interest in continuities are broadly based on his view of 'the mind's capacity to order the data of experience as a hindrance

to the proper appreciation of the way things really are' (de Beer, 1991:30, see also Huntington and Gilmour, 2001:903)

- ◆ The belief in a language of the unconscious by Lyotard (1978, 1986), i.e. a language that uses operators which are not those of ordinary language and that flow from the tensions between paradoxes and paralogsms on the one hand and the rules of a language on the other hand (de Beer, 1991:34). According to Lyotard (1978:149), trends in the analysis of representational practices based on such an approach include (1) reading a work as an expression of drives (of the author or subject), in other words as a symptom, (2) introducing a theory of sublimation, which is most often a theory of the formation of the ego, and (3) interpreting the literary or artistic creation as a process of mourning.

While it is clearly important to acknowledge influential theorists surrounding the problem of representation in this dissertation, the remainder of the chapter does not elaborate further on the meta-theoretical literature concerning the ontology of representation, but focuses instead on the core inherent properties of visual images from the perspective of semiotics, which is the most commonly used framework for the detailed analysis of the visual communication process. The inclusion of the broader philosophical literature on the problem of representation is not essential to the argument developed in this dissertation, as the specific focus of the study is on methodological - rather than meta-theoretical - issues.

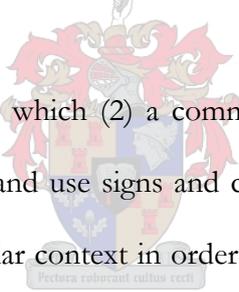
3.4 A semiotic perspective of image-based research

As mentioned above, the theoretical framework commonly used for the in-depth study of visual texts is semiotics, or the study of signs and sign systems (Leeds-

Hurwitz, 1993:6). According to Tomaselli (1996:29), semiotics may be defined in broad terms as:

'... the study of how meaning occurs in language, pictures, performance, and other forms of expression. The method incorporates not only how things come to mean, but how prevailing meanings are the outcomes of encounters between individuals, groups and classes and their respective cosmologies and conditions of existence'.

A more detailed definition of semiotics is by Fourie, (1996:20), who refers to communication from a semiotic perspective as:



'(1) a social process in which (2) a communicator/ communicators (3) select (or even create) and use signs and codes (or a medium) in and in relation to (4) a particular context in order to (5) encode her/his feelings and opinions on a particular subject in a symbolic manner to form (6) a message and to transmit the message via (7) a channel in the expectation that (8) a destination or recipient(s) will (9) understand/ interpret the communicator's message and attach (10) the same meaning to it as the communicator intended, and that, as a result of the destination/ recipients' interpretation of the message (11) semiosis will take place which will contribute to (12) a mutual understanding of the subject under discussion'.

Taking Jacobson's elementary model for the analysis of messages (Jacobson, 1960) as a point of departure, the semiotician Peters (1978:47) identified six distinct functions that pictorial material may perform. In short these are:

- ◆ The *referential function*, which an image performs when it provides a recognizable representation of an existing object. An example of the referential function is an unmanipulated photographic portrait, the main purpose of which is to provide a visual reference of the person depicted
- ◆ The *expressive function*, where the thoughts and attitudes of the visual communicator are expressed through the image, usually involving the deliberate choice of subject matter, the intentional use of specific imaging techniques and so on. An example is a portrait taken from a low camera position to convey a sense of awe, fear or respect for person depicted
- ◆ The *poetic (or aesthetic) function*, which occurs when the visual material evokes aesthetic appreciation on the part of the viewer, usually based on aesthetic laws such as the law of the similar and the same.
- ◆ The *conative function*, which refers to instances where the main purpose of the image is to place the viewer in a better position to receive an intended message. An example would be a greatly enlarged view of a minuscule object.
- ◆ The *phatic (or contact) function*, where the visual material attracts and maintains (or continually redraws) the attention and interest of the viewer
- ◆ The *meta-linguistic function*, which an image performs when it provides additional clarifying information to an existing message, which is usually in a different format. An example is an arrow placed in a photograph to point out the area of interest.

While what Peters (1978:49) refers to as the meta-linguistic function includes the relationship between written text and visual material, a more detailed discussion of the functions of 'text-embedded' visual images is provided by Levin *et. al.* (1987:53). In addition to the basic distinction between text-relevant and text-irrelevant visual images, five functions are identified. These are:

- ◆ The *decorative function* or visual images which are substantially text-irrelevant, but are included either to break long sections of text and thus increase readability, or to improve the appearance of a publication, for example with a view to raise publisher sales
- ◆ The *representation function*, i.e. where there is a strong link between the information contained in the text and the illustration accompanying the text. While broadly similar to the representative function described by Peters (1978:49), Levin *et. al.* (1987:55) use the term to refer specifically to the representation of information contained in written text
- ◆ The *organization function*, where visual images provide an organizational framework for the information conveyed in the written text. Examples include illustrated maps, 'before-and-after' images and 'step-by-step' type images used concomitantly with procedural texts, such as a description of how to assemble something
- ◆ The *interpretational function*, which in short refers to the illustration of difficult concepts in the written text by means of visual images. In the case of the interpretational function, there is low literal coherence between the information contained in the text and the visual image, but the inclusion of the visual image raises the comprehensibility of the written text. For example, the mechanics of

human blood pressure and the difference between systolic and diastolic pressure may be illustrated using visual images of industrial valves and pipes superimposed on an outline of the human body

- ◆ The *transformation function*, or the use of visual images as part of a mnemonic strategy. For example, a concept such as 'cheerfulness' in the written text may be mnemonically illustrated with a humorous, engaging cartoon image.

The above image functions as described by Peters (1978) and Levin *et. al.* (1987) may be collapsed into two fundamental categories suggested by Pauwels (1999:250). With reference to the use of visual images in scientific inquiry, Pauwels distinguishes between the mimetic and the expressive potential of the visual image.

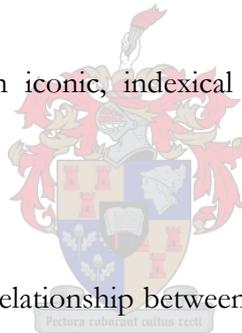
The *mimetic potential* of visual material refers to instances where the image is seen primarily as a 'reliable depiction' of a scene and the creative controls of the visual medium employed are used as sparingly as possible. Pauwels (1999:250) concedes that expressiveness is never entirely avoidable, but argues that in many instances the mimetic potential of visual images is deliberately amplified, resulting in 'raw data' which is then 'converted into more convenient (read quantitative) information by counting occurrences, measuring distances, making inventories of the things we see etc.' (1999:250). On the other hand, when the *expressive potential* of visual material is of primary concern, researchers or research participants deliberately apply the creative controls of the visual medium in order to comment on the reality depicted, transcending mere 'reliable depictions'.

Whether the intended use of the visual material is primarily mimesis or expression, a core property of visual images is, from a semiotic point of view, that

they are comprised of iconic signs. The term 'iconic sign' derives from Peirce's typology of signs, where a sign is defined as:

'A sign, or *representamen*, is something which stands to somebody for something in some respect or capacity. It addresses somebody, that is, creates in the mind of that person an equivalent sign, or perhaps a more developed sign. That sign which it creates I call the *interpretant* of the first sign. The sign stands for something, its *object*. It stands for that object, not in all respects, but in reference to a sort of idea, which I have sometimes called the ground of the representation' (in Nöth, 1990:42).

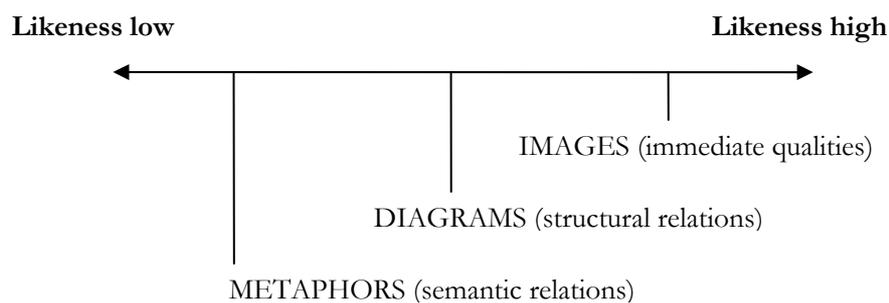
Peirce distinguishes between iconic, indexical and symbolic signs (Johansen and Larsen, 2002:217) as follows:



- ♦ With iconic signs, the relationship between the representamen and the object is one of similarity. Peirce subdivided iconic signs into images, diagrams and metaphors according to the degree of likeness (see Figure 3.1). Images contain many of the immediate qualities of the object (e.g. a passport photograph), whereas diagrams primarily share structural aspects of the object (e.g. a cartoon image). With metaphors, the relationship between the representamen and the object is semantic (Johansen and Larsen, 2002:212)
- ♦ In the case of an indexical sign, the relationship between the representamen and the object is characterised by contiguity, such as bending trees that stand for wind or a street name that designates a street

- ◆ A symbolic sign is only connected to its object through conventions of denomination or interpretation, such as traffic conventions, for example.

Figure 3.1 Piercian types of icons (based on Kazmierczak, 2001:91)



Insofar as a code refers to 'a group of signs organised into a system governed by consent among users' (Watson and Hill, 1994:33), iconic codes may be placed into three categories. These are visual figures, visual signs and visual semes. Visual figures, such as dots, lines and other autonomous marks, are the least complex structural components of an image (Eco, 1990:36). As a general rule, visual figures are more easily recognised in chirographical (hand generated) than in mechanical (apparatus generated) images, because the former are built up from autonomous marks, whereas the visual elements of a mechanical image are usually generated simultaneously (Hård af Segerstad, 1984:217). The laws of perception which govern the viewing process of two or more visual elements (Gestalt laws), such as the laws of similarity, proximity, closure or continuity, mainly apply to visual figures (i.e. the less complex elements of an image) and are based on the observation that a figure-ground relationship exists between the visual element itself and its background (see, among others, Zakia,

1993:68; Bruce and Green, 1990:110; Pettersson, 1993:68; Barry, 1997:42; Hamlyn, 1994:37). The most pertinent perception laws summarised by Zakia (1993:68) are that (1) the closer two or more visual elements that are similar in shape, colour and size are, the greater the probability that they will be seen as a group or pattern (the law of proximity), (2) visual elements that are similar in shape, colour or size tend to be seen as related (the law of similarity), and (3) visual elements that require the fewest number of interruptions will be grouped to form continuous straight or curved lines, such as a “line” consisting of closely spaced dots (the law of continuity).

When two or more autonomous marks (i.e. visual figures) are viewed in relation to one another, visual signs are created, such as the sun as a circle with radiating lines. More sophisticated visual signs (e.g. horse, wagon) are referred to as semes. Eco (1990:36) notes that semes are often commonly referred to as 'images' or 'iconic signs'. A seme is the largest (most complex) visual element that an iconic code of a pictorial message may possess. It usually contains a visual phrase such as 'horse standing in profile viewed from below'. The three categories (figures, signs, semes) are not watertight, but a continuum is envisaged ranging from autonomous marks which are distinct from the code of transmission of the image, such as the dots of a newspaper photograph, to complex semes which do not contain overt cultural connotations and are consequently not classed as an iconographic code, such as 'Pegasus' or 'The four horsemen of the Apocalypse' (Eco, 1990:37).

Importantly, Sonesson (1995:74) points out that iconic signs 'are often falsely taken to be the same thing as visual signs, although, in Peirce's view, there is nothing intrinsically visual about iconicity'. Further, the Peircian subdivision into icon, index and symbol is often misinterpreted as an exclusive classification and Peirce, mainly in his later work, emphasised that symbols, for example, may be in part indexical and in

part iconic. (Grote and Linz, 2002:25). Concerning iconic signs, Eco (1990:32) writes that:

'From Peirce, through Morris, to the various positions of semiotics today, the iconic sign has cheerfully been spoken of as a sign possessing some of the properties of the object represented. Now a simple phenomenological inspection of any representation, either a drawing or a photo, shows us that an image possesses none of the properties of the image represented; and the motivation of the iconic sign, which appeared to us indisputable, opposed to the arbitrariness of the verbal sign, disappears - leaving us with the suspicion that the iconic sign, too, is completely arbitrary, conventional and unmotivated.'

Eco (1990:32) concedes that iconic signs reproduce some of the conditions of perception of the referent (or object in Peirce's terminology), but argues that the discrepancies which exist between an iconic sign and its referent underpin the arbitrariness of the iconic sign. This view is supported by Messaris (1994:46), who states that possible discrepancies between a concrete-representational image and its referent (or object in Peirce's terminology) include that (1) the image cannot reproduce the full range of brightness levels and the full range of colours to which the eye is exposed when the referent is viewed, (2) images such as outline drawings or stick figures entail major omissions of the features of their subjects, including omissions of colour information, (3) ordinary still images (i.e. not stereoscopic or holographic images) cannot reproduce the stereoscopic effect which occurs when the referent is viewed, (4) ordinary still images cannot reproduce the effect of motion

parallax when the referent is viewed from shifting points of view, and (5) many images, such as ancient Egyptian paintings for example, do not adhere to the real-world constraint that an object can only be viewed from a single point of view at any one point in time.

To summarise, the iconicity of visual images used in the course of scientific inquiry rests in the first instance on the fact that a sufficiently high degree of (visual) similarity between the representamen and its object is considered to be of value for the purposes of a particular study. Used in such a sense, iconicity and the distinction between icon, index and symbol is best described as a 'functionally guided and context-dependent characterisation of signs'. (Grote and Linz, 2002:25). In this regard, Randsell (1986:57) writes that:



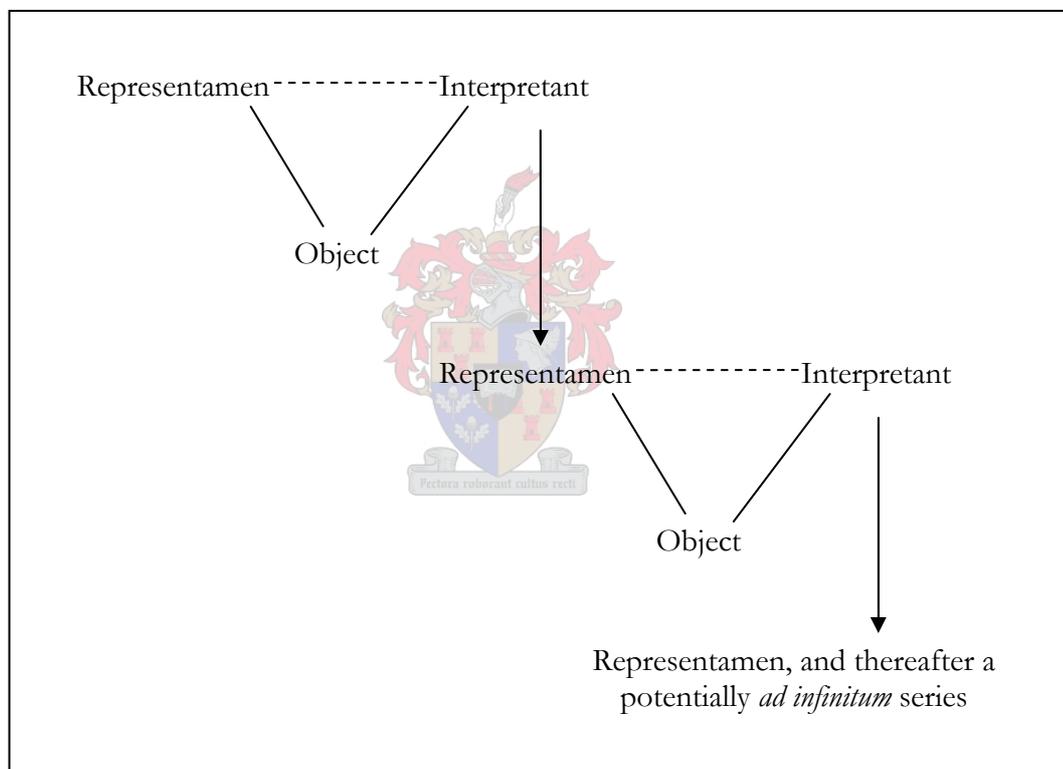
'when we identify some sign as being iconic, for example, this only means that the iconicity of that sign happens to be of particular importance to us for some reason or other implicit in the situation and purpose of that analysis, but there is no implication to the effect that it is therefore non-symbolic or non-indexical'.

3.5 The notion of 'unlimited' semiosis

During semiosis, or the action of signs, the interpretant of a sign may in turn become the representamen of a second sign, resulting in a process that may continue *ad infinitum*, based on a 'series of successive interpretants' (Nöth, 1990:42), as illustrated in Figure 3.2. Importantly, Deely (1990:62), Nöth, (1990:43), Sebeok (1989:83), Gallie (1966:126) and others have pointed out that the process of semiosis is not actually unlimited. Gallie (1966:126) writes that:

'... this endless series is essentially a potential one. Peirce's point is that any actual interpretant of a given sign can theoretically be interpreted in some further sign, and that in another without any necessary end being reached. ... [but] the exigencies of practical life inevitably cut short such potentially endless development'.

Figure 3.2 The process of 'unlimited' semiosis



What is of primary importance to this study concerning the notion of 'unlimited' semiosis is that the drift towards such an *ad infinitum* process is stronger with weak codes comprised of unstable signs than is the case with strong codes, where the signs that are organised into a system governed by consent among users are relatively stable. Concerning the instability of signs, Tomaselli (1996: 35) writes that:

'... signs are unstable - their meanings change depending on who is speaking or using them for what purpose in different contexts. Some writers refer to this semantic instability as indeterminacy. Meanings of signs also change over time and across space in response to peoples' historical experiences. The term 'democracy' means different things to different people in different countries, for example'.

In the case of iconic codes, Eco argues that they are weaker and more transitory than strong codes such as verbal language, or very strong ones such as Morse code (1976:214), and that with iconic codes 'the optional variants prevail over the truly pertinent features'(1990:34). Specifically, Eco states that in the case of iconic codes free or optional variants do not only far outweigh pertinent features, but that free variants may become pertinent features and *vice versa* according to the context in which the iconic codes are articulated (1976:215). Such contexts include the use of iconic codes in a text where:

- ◆ The text is a contract and a document
- ◆ The text is seen as history and a monument
- ◆ The text is used as a manual
- ◆ The text is a liturgy and mythical account used by a cult
- ◆ The text is a token that both imitates other texts and is self-reflexive, i.e. the artistic text (Johansen and Larsen, 2002:146).

Further, the relative instability of iconic codes is evident both on the denotative as well as on the connotative level of meaning, which feature prominently in the visual semiotics of Barthes (1971, 1973, 1977, 1982). Denotation refers to the process of identifying 'what or who is being depicted here?' (van Leeuwen, 2001:94), or the 'pertinent features' of the iconic code in the terminology of Eco (1976:215). On the second layer of meaning, or connotation, additional, implied meanings are attached to the denotative or literal meaning of the iconic code (Webster, 1980:183). For example, in an image depicting a hat, the hat denotes an object that is placed on the head, but may also connote social status, religion and so on (Webster, 1980:184).

The instability of iconic codes, both on the denotative as well as connotative levels of meaning, and the strong drift towards 'unlimited' semiosis inherent in the visual communication process may be further elaborated on with reference to Johansen's model of dialogic semiosis. Dialogic semiosis refers to the exchange of meaning between two parties using signs, (Johansen, 1993; Johansen and Larsen, 2002) and is illustrated by means of the semiotic pyramid. Johansen's semiotic pyramid (see Figure 3.3) illustrates graphically the various components of semiosis and their relation during dialogue between two parties, including what Johansen refers to as 'quasi-dialogue', or dialogue through a text, where the utterer or semiotic self (see Figure 3.3) is not present in person.

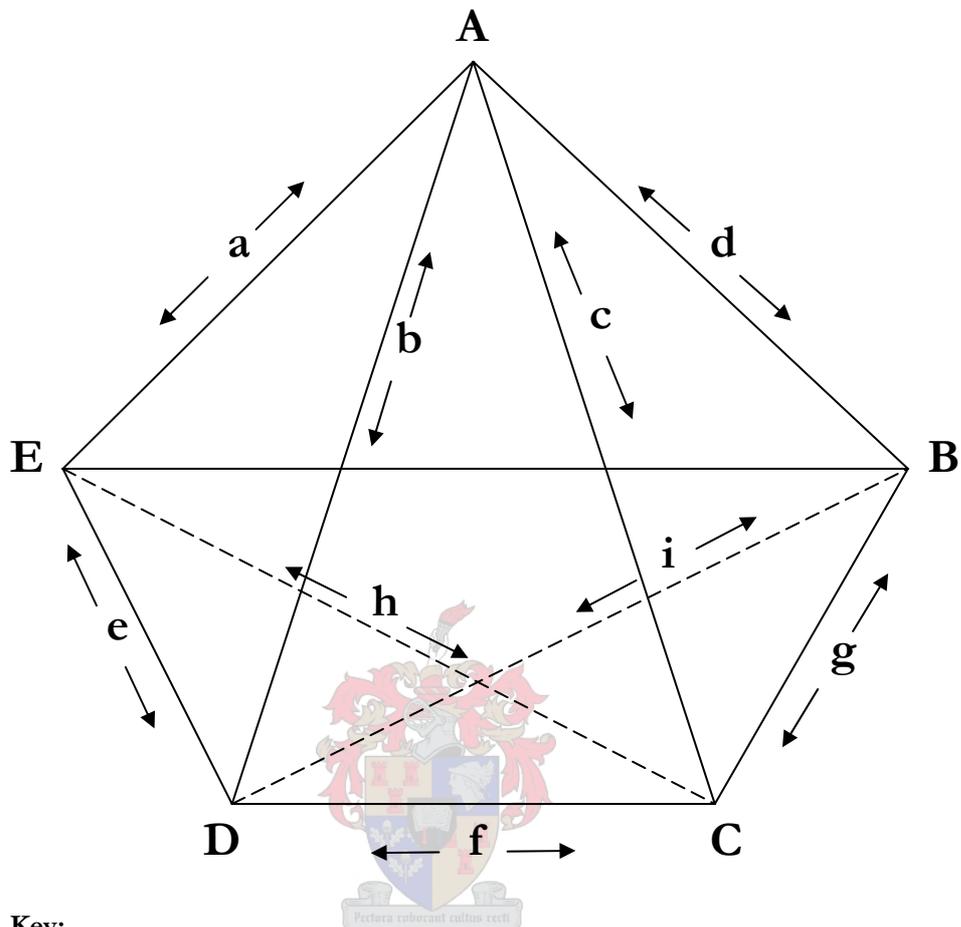
The key components of dialogic semiosis are the stipulable sign (or representamen in the terminology of Peirce, Pole A in Figure 3.3), the semiotic other (B), the interpretant (C), the semiotic self (D) and the object experienced (E). The poles connect the axes of the semiotic pyramid, i.e the indexical, symptomatic, taxonomic, perlocutionary, experiential, conventional, supposed conventional, informational and contractual axes, see Figure 3.3., each of which deals with one

particular component of the process of semiosis. In his model of dialogic semiosis, Johansen (1993:254) also discusses the relationship between these axes, which form triangular planes of the pyramid, such as the communication plane, delimited by the symptomatic, perlocutionary and contracual axes (see Figure 3.3).

Johansen's semiotic pyramid may thus be used to describe the instability of iconic codes in considerable detail. For example, a study by Gordon (1997) on the Denver African Expedition of 1925 illustrates how the same visual material gives rise to entirely different meanings in at least three different contexts. Briefly, the Denver African expedition was led by C. Ernest Cadle from July 1925 to April 1926, during which the expedition travelled from Denver in the United States of America via South Africa to parts of South West Africa and East Africa and then back, funded by Denver businessmen (Gordon, 1997:16). The body of visual material produced in the course of the expedition, primarily by the expedition member Paul Hoefler, comprises roughly five hundred black and white photographs, a film entitled 'The Bushman' consisting of nine reels, as well as public imagery of the expedition, such as pamphlets advertising lectures about the expedition. As far as the collection of photographs is concerned, there are at least three quasi-dialogues described in Gordon's study (1997) where the visual material plays an integral part in a process of semiosis.

Firstly, Gordon attempted to locate the places where some of the images were taken in 1925/6 and employed the help of trackers for this purpose. Talking about the images made during the expedition with the trackers, one of them stated that 'We are the only people in Namibia without land of our own - that is the root of our trouble. These pictures show that we used to have land of our own' (Gordon, 1997:141). In terms of the semiotic pyramid, the meaning along the lines of

Figure 3.3 The semiotic pyramid based on Johansen (1993).



Key:

1. Poles of the pyramid

- A Pole of the stipulable sign
- B Pole of the semiotic other
- C Pole of the interpretant
- D Pole of the semiotic self
- E Pole of the object experienced

2. Axes of the pyramid

- a Indexical axis connecting A and E
- b Symptomatic axis connecting A and D
- c Taxonomic axis connecting A and C
- d Perlocutionary axis connecting A and B
- e Experiential axis connecting D and E
- f Conventional axis connecting C and D
- g Supposed conventional axis connecting B and C
- h Informational axis connecting C and E
- i Contractual axis connecting B and D

3. Main triangular planes of the pyramid

- (1) The proposition plane delimited by the indexical, conventional and informational axes,
- (2) the communication plane delimited by the symptomatic, perlocutionary and contractual axes,
- (3) the convention plane delimited by symptomatic, , conventional and contractual axes,
- (4) the representation plane delimited by the symptomatic, indexical and experiential axes,
- (5) the supposed convention plane delimited by the perlocutionary, conventional and contractual axes,
- (6) the supposed representation plane delimited by the perlocutionary, indexical and experiential axes.

'we have no land of our own now but our ancestors once did', or the interpretant (Pole C in Figure 3.3), is attached to the image by the tracker, or the semiotic self (D), about the iconic codes in the photograph containing a stipulable sign (A), as produced by the photographer, or semiotic other (B) about what is depicted in the photograph, or the object experienced, (E).

Secondly, the same image connotes to Gordon a meaning such as 'this image is part of a unique collection because the collection focuses heavily, if not exclusively, on people, in contrast to other collections of anthropological images produced at the time' (Gordon, 1997:2). In this quasi-dialogue, Gordon, or the semiotic self (Pole D in Figure 3.3) attaches a meaning such as 'the image stands for the uniqueness of this collection', or interpretant (C), to the iconic codes in the photograph containing a stipulable sign (A), as produced by the photographer, or semiotic other (B) about what is depicted in the photograph, or the object experienced, (E).

Thirdly, Gordon (1997:89) suggests that a member in the American audience during one of the lectures about the expedition presented by C. Ernest Cadle after his return to Denver would, owing to the gullibility of the times and the commentary supplied by Cadle, have attached a meaning such as 'of the very lowest human types is depicted here' to the same image. In other words, the member of a predominantly middle class American audience in 1927 (Gordon, 1997:91), or the semiotic self (Pole D in Figure 3.3), sees in what is depicted in the image, or the object experienced, (E) as taken by the photographer, or semiotic other (B) something, or a stipulable sign (A) that stands for an interpretant (C) such as 'primitive' or 'low human type'.

As the three examples illustrate, what are regarded as the optional variants in the iconic code and what are regarded as the pertinent features, varies according to

the context (Eco, 1976: 215). Commenting on this context-dependent feature of pictorial communication, Gordon (1997:5) writes that:

'The question of whether photographs tell the 'truth' or are 'authentic' is, as Howard Becker (1986) points out, unanswerable and hence meaningless. Rather, one should ask: 'True about what?' Thus, considering that the truth might not be the whole truth, one needs to consider how to verify the validity of the photographs and to recognize that criteria, and hence the photograph's validity, can change over time and in different contexts.'

3.6 Summary and conclusion

This chapter did not aim to treat semiotics exhaustively. Rather, the main point of the chapter is that visual texts are comprised of iconic codes, which are unstable in relation to verbal codes, and that - accordingly - a strong drift towards 'unlimited' semiosis is inherent in the visual communication process. It should be self-evident that the creative controls of the visual medium of expression, as well as the context of presentation, may raise or lower the relative stability of the iconic signs in the image, with the result that visual texts may be described as either 'open' or 'closed'. With a closed visual text, a preferred interpretation is envisaged by the author(s) of the image, as opposed to an open visual text, for which there are no 'correct' or envisaged readings and the viewer is invited to contribute proactively towards shaping the meaning of the image (Watson and Hill, 1993:135). As illustrated in the remainder of the dissertation, both open and closed visual texts may form an integral part of one or more of the methods used in the course of scientific inquiry.

CHAPTER 4

REFLEXIVITY AND THE DOMAINS OF VISUAL METHODS

4.1 Introduction

This chapter commences with a discussion of reflexivity in an image-based research setting, which broadly refers to making the link between the visual methods employed and the purposes of a study explicit, as well reflexive accounts surrounding the producer, the process and the product - as opposed to the core inherent properties of visual images discussed in the previous chapter. The discussion of the notion of reflexivity as applied to visual methods is followed by a review of existing models for the classification of image-based research by Blinn-Pike and Eying (1993) and Pauwels (1991). In the remainder of the chapter, the domains of visual methods are demarcated according to (a) the unit of analysis of the research project in which visual methods are utilized, (b) the degree of researcher control as influenced by the role of the researcher (insider, outsider, participant) and (c) the degree of researcher control as determined by the production of the visual material (e.g. visual material generated for the purpose of a study as opposed to existing visual material). Throughout the chapter, the domains of visual methods delineated are illustrated with examples from the image-based research literature.

4.2 Reflexivity in image-based research

The majority of authors writing about methodological aspects of image-based research refer to reflexivity as a central issue. Reflexivity broadly refers to 'the capacity

of any system of signification to turn back upon itself, to make itself its own object by referring to itself' (Myerhoff and Ruby, 1982:2). Reflexive knowledge 'contains not only messages, but also information about how it came into being [and] the process by which it was obtained' (Myerhoff and Ruby, 1982:2). In a research setting, reflexivity deals primarily with 'the continual assessment of the contribution of one's knowledge to others, as well as the questions we have asked; the way we locate ourselves within those questions and the purpose of our work' (Maynard and Purvis, 1994:18). Proceeding from Fabian (1971), Myerhoff and Ruby (1982:5) suggest that reflection more often than not concerns a producer, a process and/or a product. In an image-based research setting, reflections about the use of visual images as an integral part of one or more of the methods used would thus typically include:

- 
- ◆ Continually asking questions about the *purpose(s)* of the study in which visual methods are used
 - ◆ Critically investigating the role of the *producer(s)* of the visual material
 - ◆ Examining the *processes* that lead to the production and use of the visual material in various contexts
 - ◆ Analysing the properties of the *product* or output of the image-based research process and how it is received.

Firstly, an example of a reflexive account about the extent to which the visual methods employed in a study link with its research question and broader purpose is by Clark (1999:41), who incorporated photographs in interviews with children who were chronically ill with diabetes. Clark reports that as young children seldom share information among themselves strictly through question-and-answer sessions

(1999:40), the use of 'autodriven' interviews in which photographs played a central role enabled her to obtain deeper insights about the children's experiences with diabetes (the purpose of the study) than the standard verbal interview format would have achieved.

Secondly, an example of reflections about the role of the producer of the visual material is by MacDougall (1995). Writing about the production of ethnographic films, MacDougall sees the producer as a member of 'a notional triangle formed by the subject, the viewer and the filmmaker' (1995:226), who may handle the subjectivity or 'voice' of those filmed in various ways. These include the cinematic modes of first-person testimony, second-person implication and third-person exposition. With first-person testimony, such as a soliloquy or confession in front of the camera, information is communicated by the filmed subjects talking about their experiences and there is typically ample room for self-expression on the part of those filmed. In contrast, during the second-person implication mode, comments about what is being shown in the film are directed at the viewer, saying in effect something along the lines of 'you are also experiencing this' and the viewer is actively invited to become involved in 'the process of lived experience' (MacDoudall 1995:227). Lastly, during third-person exposition, a third person narrates what is being shown in the film, usually explaining the behaviour of other third persons, inviting the viewers to ask how they would feel or behave in the place of those depicted (1995:228).

A second example of a reflexive account about the producer(s) of the visual material is by Chalfen (2002), who discusses home media, such as family photographs, as a source of data. As this type of visual material is primarily produced by the family members themselves, rather than by a researcher or documentary

photographer, Chalfen argues that it is important to make the views of the producers about such 'evidence' explicit. For instance, Chalfen (2002:147) writes that:

'Ordinary people take a different kind of reflective stance on their personal photographs - one more focused on product and less on process. They have fewer questions about the validity of their pictorial records; they have no investment in treating this material as problematic.'

Thirdly, an example drawn from the visual sociology literature that contains a reflexive discussion about the process of producing visual material is a study by Rieger (2003). Rieger (2003:157) describes the strengths and limitations of three strategies for visually documenting social change over an extended period of time. These are (a) repeating photographs of the same scene over time, (b) repeating photographs depicting the participants in the change process, and (c) re-photographing specific activities, processes or functions over an extended period of time. While the approaches described by Rieger (2003) essentially deal with questions of researcher control over the production of the visual material, they also to some extent touch on issues of reactivity, including (a) procedural reactivity in the sense that cameras and other recording devices damage rapport and interfere with every day behavior and activities in the study population, and (b) personal reactivity in the sense that the personal characteristics and idiosyncratic behavior of the researcher impacts on the visual material produced as the act of creating an image involves personal awareness, technical and artistic judgments and so on (Prosser, 1998:104).

Lastly, an example of a study containing reflections on the properties of the 'products' or outputs produced in the course of an image-based research project is by Worth (1981). Worth argues that 'pictures can't say ain't' in the sense that visual

images do not have the formal capability of depicting negative events and that it makes more sense to formulate the meaning of an image along an exist-did not exist continuum as opposed to a true-false continuum. Concerning the inherent properties of images, Worth (1981:184) writes, for instance, that 'the dimension of truth or falsity is a fairly useless dimension with which to think of and about pictures'. While Worth seems to have had a very pessimistic opinion about the expressive potential of visual images (in the sense that it is undoubtedly possible to communicate the notion of 'absence' visually), his reference to the dimension of truth or falsity suggests that he was writing with general criteria for scholarship in mind. Regardless of the academic discipline in which visual methods are used (sociology, anthropology, nursing, education and so on), the final outputs of an image-based research project need to conform to criteria for scholarship determined and continually revised by the research community. For a research product or final output that contains iconic codes to be acceptable to the research community (cf. Chapter1), the format in which it is presented typically needs to conform to at least the following criteria (based on Biella, 1993:138, in Tomaselli, 1996:217):

- ◆ The scholarly work must be articulated within or in response to an established intellectual paradigm
- ◆ The work must adhere to (or engage with) standards of clarity and argumentation within that paradigm
- ◆ The work must be comprised of sections which are cross-referenced and partially redundant
- ◆ The work must be presented in a format which allows rapid, non-linear access to all its components

- ◆ The presentation format must allow users to take unlimited notes
- ◆ The presentation format must allow authors to make unlimited notes (including footnotes) and bibliographic references.

The above listed examples of reflexivity in image-based research, dealing with the link between visual methods and the purposes of a study, as well as reflexive accounts about the producer, the process and the product, suggest that core domains of image-based research practice may be mapped out, providing a generic structure for reflection. As mentioned in the introduction, the various domains of visual methods described in the remainder of this chapter were formulated taking the existing models for the classification of image-based research by Blinn-Pike and Eying (1993) and Pauwels (1991) as points of departure.

4.3 Blinn-Pike and Eying

In a model for the classification of photographic research in the social sciences by Blinn-Pike and Eying (1993, see Table 4.1), the dimensions of 'use' and 'production' were used to obtain fifteen types of photographic research methods. On the 'use' dimension, the categories are:

- ◆ Content analysis, or the quantification of various elements 'seen in photographs' (Blinn-Pike and Eying, 1993:107), for an in-depth discussion of content analysis as applied to visual texts see Bell (2001), the discussion includes reference to issues of the external validity
- ◆ Visual stimuli, i.e. visual images are used as part of an established measurement instrument in psychology, and the information about the image sought from the

study participant is related to the explication or assessment of a psychological construct. An example is the Thematic Appreciation Test (TAT) originally developed in 1935 by Murray, which entails twenty cards depicting scenes with people in them. The cards are shown to the study participant one at a time and he or she is asked to make up a complete story, describing the scene as well as the characters, actions, feelings, motives and outcome of the story. The psychologist then aims to interpret the story in terms of psychoanalytic theory (Blinn-Pike and Eying, 1993:109)

- ◆ Photo-therapy, which concerns the therapeutic value of photographs. The difference, according to Blinn-Pike and Eying (1993:110) between photo-therapy and photo-elicitation is that photo-therapy emphasises the use of photography to facilitate growth or change in a patient/client/participant, whereas with photo-elicitation the aim is to gather data or information (see also Wakefield and Unterwager, 1998).
- ◆ Historical analysis, evaluation and documentation, or studies where a requirement of the photographic image is the verifiability between the actual event or person depicted and the image produced. The verification may be needed as part of a historical analysis, programme evaluation or for general documentation purposes (Blinn-Pike and Eying, 1993:111, see also Perlmutter, 1994)
- ◆ Photo-elicitation, also referred to as photo-interviewing, i.e. a projective technique in which informants are asked to discuss and react to photographs, especially photographs of their own lives, surroundings or past (Blinn-Pike and Eying, 1993:112). Photo-elicitation (Prosser and Schwartz, 1998:124) in its

Table 4.1 Model for classifying photographic research in the social sciences by Blinn-Pike and Eyring (1993)

Use	Production		
	Researcher	Existing	Native
Content analysis	Harper, 1979 Ewen, 1979 Mills, 1984	Goffman, 1976 Titus, 1976 Griggers, 1990	Ziller and Smith, 1977 Ziller and Lewis, 1981 Ziller, Vern and de Santoya, 1988
Visual stimuli	Kose, 1985 Murray, 1935 Messaris and Gross, 1977	None	None
Photo-therapy	Fryrear <i>et al.</i> 1977 Williams, 1987 Krauss and Fryrear, 1983	Wessells, 1985 Kaslow and Friedman, 1977	Blinn, 1989 Ammerman and Fryrear, 1975 Zwick, 1978
Historical analysis, Evaluation, Documentation	Templin, 1982 Srivastava, 1979 Belk <i>et al.</i> , 1988	Dowdall and Golden, 1989 Nye, 1983, 1985 Albers and James, 1983	Bultemeier, 1992 Blinn and Harist, 1991 Brown, Petersen and Sanstead, 1980
Photo-elicitation	Collier, 1957 Bunster, 1977 Goldberg, 1985	Blinn, 1988 Walker and Mouton, 1989 Lesy, 1980	Blinn and Harist, 1991

conventional form refers 'to a single or sets of photographs assembled by the researcher on the basis of prior analysis and selected with the assumption that the chosen images will have some significance to the interviewees. The photographs are shown with the express aim of exploring the participants' values, beliefs, attitudes and meanings and in order to trigger memories or to explore group dynamic or systems' (see Harper, 1988, Schwartz, 1989, Walker and Weidel, 1985).

On the 'production' dimension, a distinction is made between visual material produced by the researcher, existing visual material and visual material produced by members of the study population (termed 'native', see Table 4.1). The basis for the distinction is who the 'individual responsible for the production of the photos' was (Blinn-Pike and Eying, 1993:106).

Blinn-Pike and Eying (1993:106) argue that their model is useful (a) to broaden researchers' horizons concerning the potential for photographic research, (b) to promote creativity in research design, (c) to provide a format for teaching photographic research methods, (d) to provide a template for evaluating existing research, and (e) to suggest a common language for discussing photographic research. Elaborating on item (c), they write that:

'... the model provided students with the opportunity to make revisions and suggest alternatives. The simplicity of the classifications system reduced the amount of information accounted for in classifying a study. The ambiguity of terms allowed for group discussion. If the student had difficulty determining exactly where to place a particular study because it

was perceived as fitting the criteria for two or three different cells, he or she was forced to make a case for a particular fit or suggest a revision of the model' (1993:113).

4.4 Pauwels

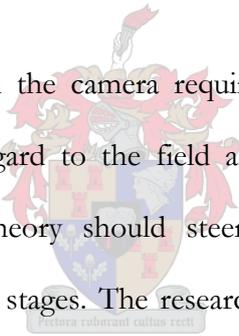
Proceeding from Heider's (1976) guidelines on ethnographic film, Pauwels (1993:203) developed a model explicating the critical factors that influence the collection and analysis of visual data in sociological research (see Figure 4.1). According to Pauwels (1991:205), the main factors that play a role during the 'scientific' production of visual images (1993:203) are:

- ◆ The selection of a theoretical foundation, or a theoretical point of departure that has a clear visual dimension, the adequate application of the theoretical framework chosen and thorough prior reconnaissance of the field of study, especially regarding the possible use of visual media in the course of the study. For example, semiotic theory, as discussed in the previous chapter, may serve as a theoretical foundation
- ◆ The visual competence (or visual literacy and intelligence, see the introduction chapter) of the researcher, including adequate technical competence in the visual medium, a working knowledge of visual language, visual conventions and information channels of the visual medium, and adequate insight of the epistemological consequences of choices made on technical and communication process level study
- ◆ Appropriate awareness of intentional and un-intentional influences, including an appropriate estimation of the influence of context effects (observation effects,

ensorship), an adequate awareness of and motivation for intentional interference and where applicable ensuring an environment in which unwanted influences are reduced to a minimum

- ◆ The internal and external contextualisation of the visual material, including the internal context (within the visual material) and the external context (beyond the visual material), where contextualisation may involve a comparison of the information contained in the visual material with other sources or making the wider context of the theory followed and the production context explicit.

Pauwels (1993:203) writes that:



'Exploring society with the camera requires thorough preparation and considerations with regard to the field and the subjects involved. An explicit, appropriate theory should steer the image production and processing in all of its stages. The researcher not only needs to have a sufficient degree of technical knowledge, allowing him [or her] to produce images with enough visual detail, but he should also be aware of the conventions regarding the medium he is using, and consequently of the perceptual cultures of the academic or non-academic audience he intends to address'.

Pauwel's framework closely relates to Ball and Smith's (1992:19) basic differentiation between image content, referent and context, but goes further by including the researcher's visual competence and by advocating a strong reliance on a theoretical foundation to stabilise processes of data collection and analysis.

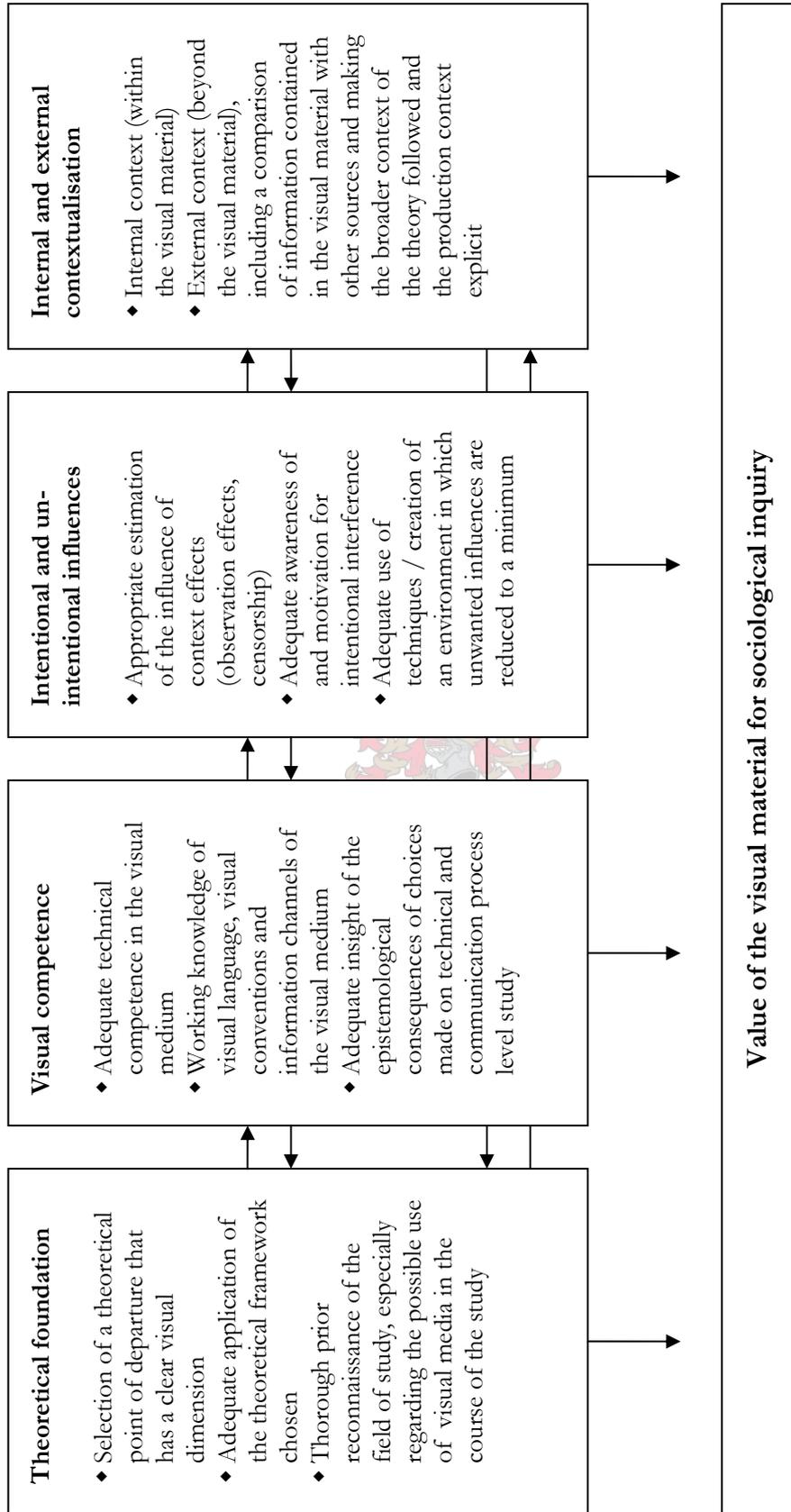


Figure 4.1 Theoretical framework by Pauwels (1991)

While the frameworks by Blinn-Pike and Eying (1993) and Pauwels (1991) both deal primarily with photography, the issues of authorship, use, visual literacy and researcher competence they raise are central to all forms of visual methods.

4.5 Classification according to the unit of analysis

Arguing for a broader understanding of visual data than accommodated in the above two theoretical frameworks, Emmison and Smith (2000:4, in Wagner, 2002:165) write that:

'What needs to be considered is the way in which the visible features of the social world, which are readily available to the naked eye - not their representation in photographic images - constitute data for investigation. Stated in the simplest form, we are proposing that visual data should be thought of not in terms of what the camera can record but of what the naked eye can see.'

That visual material may be either the unit of analysis of a research project, an integral part of the method used (regardless of whether the entity being studied is visible or not) - or both – is contained in two questions which Wagner (2001:7) asks in a review of books by Coles (1997) and Pink (2001). The questions are:

- ◆ 'How can and should an individual image or artefact be read', and
- ◆ 'How can and should images in general be used in social inquiry?'

The first question refers to the visual material as the unit of analysis of research, as opposed to the second question, where visual material is referred to as an integral part of the methods of sociological inquiry. This distinction is illustrated in Table 4.2, which provides an overview of the functions that visual images may perform in a research project by making the relationship between the unit of the analysis and the method used explicit. In other words, Table 4.2 refers to the link between the ontological and the methodological dimensions (Mouton and Marais, 1998:7) of image-based research.

Table 4.2. Classification of visual methods according to the unit of analysis

Is the unit of analysis visual material / a visual record?	Do visual images form an integral part of the methods employed?		
	Yes, predominantly	Yes, partially	No
Yes, e.g. a family photo album	e.g. Ziller <i>et al.</i> (1988), Bach (1998, see especially page 86)	e.g. Newbury (2002)	Excluded from typology
No, e.g. an individual, a community, a concept	e.g. Rich and Chalfen (1999)	e.g. Harper (1997)	Excluded from typology

For example, in a study by Rich and Chalfen (1999), the stated aim is to describe how young patients with chronic asthma can teach clinicians about the realities of day-to-day life with illness by means of patient-generated video narratives. A visual method (video narrative) is thus used in a study with a unit of analysis that is not in the first instance visual material, but an illness (asthma). In Newbury (2002), the main research

technique is an individual interview and the subsequent transcription and analysis thereof. As a photographer is interviewed about a body of documentary photographs and films (i.e. the unit of analysis is visual material) and visual images are referred to in the course of the interview, the study involved only a partial or limited application of visual methods.

An example of a project where visual methods were used to study visual material is by Ziller et al. (1988 in Blinn-Pike and Eying, 1993:108) in which photographs produced by twelve to thirteen year old study participants from two contrasting socio-economic regions in Mexico City were analysed for content. Similarly, Bach (1998:87) coded visual images produced by members of the study population using existing categories by Ziller (1990). As illustrated by Harper (1997) in a study about social structures on dairy farms (i.e. the unit of analysis was not visual material, but a rural community), visual methods may be used sequentially or in parallel with other research methods such as survey methods (see Tashakkori and Teddlie, 1998:139). Specifically, Harper (1997) combined data from aerial photographs with data from a sociological survey (see also Gold, 1995; Faccioli and Pitasi, 1995).

4.6 Classification according to data format

Pauwels (1991:246) notes that scientific inquiry is essentially word-driven and will remain so for the foreseeable future, suggesting that the notion of an inquiry exclusively founded on and communicated by means of visual images is utopian. An implication is the inevitability that the data will be in more than one format when visual methods are used in the course of a research project. In an auto-driven interview as described by Clark (1999), for example, some of the data are in a visual

format (i.e. photographs taken by study participants) and some are in non-visual formats, including oral statements made during the auto-driven interviews and written transcripts thereof, as well as data in a numerical format such as number of participants, number of photographs discussed per interview and so on.

While a precise distinction between visual and verbal texts is, unfortunately, not a straight-forward matter (see Ogasawara, 1998), in most cases working definitions may easily be formulated for the purpose of a particular study. In Tables 4.3 and 4.4, the category 'hybrid', which was added to supplement the basic distinction between visual and non-visual data formats, refers to instances where the visual and verbal components of the data are inextricably linked and it does not necessarily make sense to separate them, such as a video recording consisting of a verbal expression of shock together with the visual gesture of placing the hands on the face.

The 'visual', 'non-visual' and 'hybrid' categories may be expanded to accommodate project-specific categories relating to, for example, images generated in different ways, such as chirographical (hand-generated) versus mechanical (machine-generated) images (Hård af Segerstad, 1984), still versus moving images and so on. An example of a study where the distinction between chirographical and mechanical images is relevant is by Young and Barrett (2000), where both thematic and non-thematic drawings and photo diaries were used to study socio-spatial aspects of the daily life of street children in Kampala, Uganda.

4.7 Classification according to researcher role

Van Maanen (1996:iii) points out that while researchers are typically outsiders devising strategies of gaining insider knowledge, often assuming a posture of

indwelling (Maykut and Morehouse, 1994:25), the role of the researcher in the course of a research project is highly relative, shifting and ambiguous. Sands and McClelland (1994:33), among others, use the terms 'emic' and 'etic', which derive from 'phonemic' and 'phonetic' respectively (see Pike, 1954 and 1990) to describe the insider (or emic) and outsider (or etic) research perspectives. With specific reference to ethnography, Sands and McClelland (1994:33) write that:

'... neither the participants (traditionally viewed as insiders) nor the researchers (traditionally viewed as outsiders) can maintain purely emic or etic perspectives. On the contrary, both participants and researchers move along a continuum of emic and etic perspectives that are constantly changing. What becomes critical is how the ethnographer acknowledges these transitory positions and represents them in the ethnographic report. For the researchers, then, the emic/etic constructs will become a heuristic device for investigating both the process and product of ethnography and its theory-method relationship' (Zaharlick and Green, 1990).

In addition to the distinction between emic and etic perspectives, which rests primarily on shared experiences, special interests and unique problems which members of a particular group face (van Maanen, 1996:iii), issues of co-ownership and shared power form the basis of the 'participant' role which the researcher may adopt. Babbie and Mouton (2001:58) quote Reason and Rowan (1981:489, see also Reason, 1994) who describe a participatory research relationship as follows:

Table 4.3 Classification according to researcher control: Role of researcher

Is the unit of analysis visual material?	In which format is the data generated? (1-3)	Role of researcher (I-III)		
		Outsider (I)	Insider (II)	Participant (III)
Yes, e.g. a family photo album (A)	Visual, e.g. a photograph (1)	A-1-I	A-1-II	A-1-III
	Non-visual, e.g. verbal statement about a photograph (2)	A-2-I	A-2-II	A-2-III
	Hybrid, e.g. video recording of gesture with verbal statement 'No' (3)	A-3-I	A-3-II	A-3-III
No, e.g. an individual, a community, a concept (B)	Visual, e.g. a photograph (1)	B-1-I	B-1-II	B-1-III
	Non-visual, e.g. verbal statement about a photograph (2)	B-2-I	B-2-II	B-2-III
	Hybrid, e.g. video recording of gesture with verbal statement 'No' (3)	B-3-I	B-3-II	B-3-III

'...significant knowledge of persons is generated primarily through reciprocal encounters between subject and researcher, for whom research is a mutual activity involving co-ownership and shared power with respect to both the process and the product of the research.'

For example, in a project by Clark and Zimmer (2001), three different types of visual material were produced with a view to gain insight into Latino children's health. These are (a) photographs taken by the mothers of the children with disposable cameras, (b) photographs taken by research staff during home visits, and (c) 'Day in the Life' type photographs taken by the researchers in a day-long period of intensive observation. In these three situations, the role of the researchers shifted from participant, outsider and (emerging) insider status respectively. The categories 'insider', 'outsider' and 'participant' may be operationalised to fit specific research settings, adding context-specific categories where appropriate, with a view to make the (not necessarily constant) relationship between the researcher and the study setting as explicit as possible, or to map the changing researcher-study population relationships as a research project progresses. Concerning research relationships between members of a research team, Code (1987:245 in Bach, 1998:43) writes that:

"Thinking individuals have a responsibility to monitor and watch over shifts in, changes in, and efforts to preserve good intellectual practice. Not everyone is either physically able or intellectually equipped to watch over all areas; hence, the necessity for a division of intellectual labour, with the responsibilities this division entails both for experts and for those inclined to take experts at their word. Such divisions should not be

seen as an excusing feature of the epistemic community, everyone is responsible, to the extent of his or her ability, for the quality of cognitive practice in a community.'

4.8 Classification according to the production of the visual material

In addition to the role of the researcher, basic distinctions may be made between (a) existing data and 'new' data that are in a visual format, e.g. archival images versus visual material generated for the purpose of a specific project, and (b) highly structured and poorly structured data. Structuration typically occurs while the visual material is generated, but may also be introduced by coding or classifying the already produced visual material. For example, in a study by Margolis (1999), a number of the existing posed group photographs of school classes taken between the 1880s and the 1940s (see especially Figure 12 on page 29) display a high degree of structuration as a result of symmetrical standing or seating arrangements, the wearing of school uniforms and the deliberate, orderly arrangement of other visual elements such as flags in the frame. An example of a study that elaborates on the structuration of already produced data in a visual format is by Preston (2001), in which classification systems applied to the Farm Security Administration - Office of War Information (FSA-OWI) photograph collection during the past sixty years are compared. An example of a project where structuration was introduced to visual material that was specifically generated for the purpose of the study is by Rich and Chalfen (1999:55). Rich and Chalfen supplied study participants with video recorders to document their illness experience and structured the collection of data by locking the camcorders in automatic focus and exposure modes with zoom lenses locked in their wide-angle position.

Table 4.4 Classification according to researcher control: Source of the visual material

Is the unit of analysis visual material?	In which format is the data generated? (1-3)	Researcher control over the production of the visual material (i-iii)		
		Strong: <i>Ex ante</i> (i)	Weak: <i>Ex ante</i> (ii)	Weak: <i>Ex post</i> (iii)
Yes, e.g. a family photo album (A)	Visual, e.g. a photograph (1)	A-1-i	A-1-ii	A-1-iii
	Non-visual, e.g. verbal statement about a photograph (2)	A-2-i	A-2-ii	A-2-iii
	Hybrid, e.g. video recording of gesture with verbal statement 'No' (3)	A-3-i	A-3-ii	A-3-iii
No, e.g. an individual, a community, a concept (B)	Visual, e.g. a photograph (1)	B-1-i	B-1-ii	B-1-iii
	Non-visual, e.g. verbal statement about a photograph (2)	B-2-i	B-2-ii	B-2-iii
	Hybrid, e.g. video recording of gesture with verbal statement 'No' (3)	B-3-i	B-3-ii	B-3-iii

The study participants only received training about changing tapes, switching the camcorders on and off and how to mount the camcorder on a tripod in addition to directions pertaining to the type of subject matter to be included in the visual narratives. The above described issues may be summarised as follows (see Tables 4.3 and 4.4):

- ◆ Researcher control over visual material that was not generated for the purpose of a study (*ex post*) is weak
- ◆ Researcher control over visual material specifically generated for the purpose of a study (*ex ante*) is *strong* when the researcher is in a position to influence the degree of structuration of the visual material (e.g. the researcher captures visual images her/himself; techniques of strengthening researcher control are elaborated in Pauwels' (1991) model described earlier in this chapter)
- ◆ Researcher control over visual material specifically generated for the purpose of a study (*ex ante*) is *weak* when the researcher is not in a position to influence the degree of structuration of the visual material (e.g. the visual images are produced by the members of the study population who have a 'free hand').

4.9 Conspectus of the domains

The above demarcated domains of visual methods are mapped out in Tables 4.3 and 4.4. The 36 cells cover:

- ◆ Domains of a research project in which images play an integral of one or more of the methods used where the unit of analysis (or entity being studied) of the study

as a whole is either visual material / a visual document (denoted with 'A') or not ('B')

- ◆ Domains where the data under discussion is visual material (e.g. photographs, denoted with a '1'), not visual material (e.g. verbal statements about a photograph, denoted with '2'), or the visual and verbal components of the data are inextricably linked and it would be counter-productive to separate them ('3').
- ◆ Domains where the role of the researcher is that of an outsider (denoted with a 'I'), an insider ('II') or a participant ('III')
- ◆ Domains where the researcher has strong control over the structuration of the visual material, which was generated *ex ante* for the purpose of the study (denoted with a 'i'), where the researcher has weak control over the structuration of the visual material, which was either generated *ex ante* ('ii') or *ex post* ('iii').

4.10 Summary and Conclusion

The key domains of visual methods mapped out in this chapter are not exhaustive and do not necessarily cover all conceivable ramifications of image-based research practice. However, the above described domains provide a basic structure for reflecting about image-based research practice in general and, specifically, for elaborating on validity threats when visual methods are utilized in the course of a research project. In the next chapter, the notions of validity reviewed in Chapter 2 and the domains of image-based research delineated in this chapter are together taken as the point of departure for the formulation of a conceptual framework for validity in image-based research.

CHAPTER 5

A CONCEPTUAL FRAMEWORK FOR VALIDITY IN IMAGE-BASED RESEARCH

5.1 Introduction

In this chapter, a conceptual framework for validity in image-based research is developed on the basis of the preceding literature review chapters. The chapter covers the elements of the conceptual framework (a domain label, a domain description, whether the aim is to ensure or evaluate validity, a description of the validity criterion and of the methodological strategy that was followed or that will be followed); as well as an illustration of the mechanics of the framework with reference to selected aspects of studies by Lomax and Casey (1998), Clark and Zimmer (2001), Rich and Chalfen (1999), DuFon (2002) and Chaplin (1994). At the end of the chapter, the proto conceptual framework is discussed with reference to previous sections of the dissertation dealing with the relative instability of iconic codes (Chapter 3) and reflexivity in image-based research (Chapter 4).

5.2 Elements of the framework

In a review contrasting the approaches to image-based research of Prosser (1998) and Emmison and Smith (2000), Wagner (2002:165) highlights Prosser's views on validity in image-based research. Prosser (1998a:104) writes that:

'Validity in sociological and anthropological field studies has been focussed essentially on methods rather than on people and human

processes... This construct and application of validity is now seen by many to be limited if not inadequate for human inquiry, particularly studies of culture which are better supported by notions of validity based on an interactive, dialectical, collaborative logic'

Prosser seems to be suggesting that, linking with the review of the notion of validity in Chapter 2 of this dissertation, the *evaluation* of validity (where the emphasis is on methods rather than the researcher) should not receive more attention than strategies of *ensuring* validity (which typically stress the researcher's competence, such as researcher responsiveness, see Morse et al, 2002:3). For the validity framework outlined in this chapter, the various notions of validity as reviewed in Chapter 2, as well as the key domains of visual methods delineated in the previous chapter were taken as the point of departure. The elements of the conceptual framework are:

- ◆ A domain label, such as B-1-III, taken from Table 4.3 and / or Table 4.4
- ◆ A domain description, which includes reference to the main dimensions under consideration (e.g. role of the researcher, data format and so on) as well as project-specific constraints, opportunities and heuristically valuable background information
- ◆ An indication whether the aim is to evaluate or to ensure validity
- ◆ A description of the validity criterion, source of error or validity threat under discussion. An example would be a description such as '... ensuring validity (Morse et al, 2002) by means of adequate investigator responsiveness during data collection, where the aim is to democratise research practice as far as possible ,

i.e. the underlying research philosophy is critical theory et al., with specific reference to the notion of paralogical validity as defined by Lather (1993)'

- ◆ A description of the methodological strategy that was followed or that is to be implemented in order to minimise validity threats. In the description, reference is made to project-specific constraints, opportunities and heuristically valuable background information.

5.3 Illustration of the framework

The mechanics of the validity framework are illustrated with reference to selected aspects of image-based research projects by Lomax and Casey (1998), Clark and Zimmer (2001), Rich and Chalfen (1999), DuFon (2002) and Chaplin (1994). These illustrations do not cover all issues of validity raised by the studies, but only highlight specific aspects that relate to the visual method utilised. The theoretical validity of the studies, for example, for which a key indicator is the rigour or thoroughness of the literature review (cf. Chapter 2), is not elaborated on.

5.3.1 Example 1: Lomax and Casey (1998)

Lomax and Casey (1998) used video methods to investigate midwife-client interaction in a study entitled 'Recording social life: Reflexivity and video methodology'. The unit of analysis of the study was midwives and midwife-client interaction (designated with a domain label commencing with 'B'). In the study, some of the data was generated in a visual format (the visual component of the video recording) as well as in non-visual formats, such as the verbal interaction between the midwife and the client, which was transcribed. As far as the visual component of the data is concerned (i.e. those cells in Table 4.3 and Table 4.4 commencing with '1'), the process of data collection was

mutually managed by the researcher and the study participants. In the course of the paper, Lomax and Casey (1998:6) identify reactivity as a main methodological concern with video-recording the midwife-client interaction. As mentioned in the previous chapter, reactivity may involve (a) procedural reactivity in the sense that cameras and other recording devices damage rapport and interfere with every day behavior and activities in the study population, and (b) personal reactivity because the personal characteristics and idiosyncratic behavior of the researcher impacts on the visual material produced as the act of creating an image involves personal awareness and technical and artistic judgments (Prosser, 1998:104). Reactivity pertains to the data collection stage of the research process and is typically associated with the inquiry paradigms of positivism and post-positivism.

While respondent validation techniques, such as interviewing study participants about the experience of being video-taped to establish whether the presence of the camera/recording equipment influenced their behaviour (see Martin and Martin, 1984; Gottdiener, 1979; Albrecht, 1985; Arborelius and Timpka, 1990 in Lomax and Casey, 1998:4), may yield additional information about the extent of the reactivity itself, they do not lower reactivity *per se*. Consequently, Lomax and Casey explored the methodological ‘move’ (Mouton, 1996:111) or strategy to minimise reactivity by empowering the midwives taking part in the study to control when the video camera was switched on and off during the consultation. As illustrated in Table 4.2, the decision to allow the study participants to determine which parts of the consultation are video recorded would represent a move from cell B-1-i (the researchers have strong control over the production of the data that are in visual format and are produced for the purpose of the study or *ex ante*) to cell B-1-ii (the researchers have weak control over the production of the data that are in visual

Table 5.1 Illustration of the framework as applied to Lomax and Casey (1998)

ELEMENT	DESCRIPTION
Domain Label (cf. Table 4.3 and Table 4.4)	Move from B-1-i to B-1-ii
Domain description	The data are in a visual format (the visual component of a video recording) and are generated for the purpose of the study (<i>ex ante</i>). Researcher control over the production of the visual material shifts from strong to weak because the participants are empowered to determine when the camera is switched on or off during the consultation.
Is the aim to ensure or evaluate validity?	Evaluate validity in a completed study
Description of the validity criterion / source of error / validity threat	(a) Procedural reactivity in the sense that cameras and other recording devices damage rapport and interfere with every day behavior and activities in the study population, and (b) Personal reactivity because the personal characteristics and idiosyncratic behavior of the researcher impacts on the visual material produced as the act of creating an image involves personal awareness and technical and artistic judgments (Prosser, 1998a:104).
Methodological strategy that was followed / that is to be implemented	Inviting study participants to influence the video recording process, i.e. being able to determine when the video camera is turned on and off during the consultation.

Table 5.2 Methodological 'move' reported in Lomax and Casey (1998) relating to researcher control over the production of the visual material

Is the unit of analysis visual material?	In which format is the data generated? (1-3)	Researcher control over the production of the visual material (i-iii)		
		Strong: <i>Ex ante</i> (i)	Weak: <i>Ex ante</i> (ii)	Weak: <i>Ex post</i> (iii)
Yes, e.g. a family photo album (A)	Visual, e.g. a photograph (1)	A-1-i	A-1-ii	A-1-iii
	Non-visual, e.g. verbal statement about a photograph (2)	A-2-i	A-2-ii	A-2-iii
	Hybrid, e.g. video recording of gesture with verbal statement 'No' (3)	A-3-i	A-3-ii	A-3-iii
No, e.g. an individual, a community, a concept (B)	Visual, e.g. a photograph (1)	B-1-i	B-1-ii	B-1-iii
	Non-visual, e.g. verbal statement about a photograph (2)	B-2-i	B-2-ii	B-2-iii
	Hybrid, e.g. video recording of gesture with verbal statement 'No' (3)	B-3-i	B-3-ii	B-3-iii

format and are produced for the purpose of the study or *ex ante*). In the process, the extent of researcher control over the production of the visual material was lowered because the study participants gained primary authorship of the visual material. According to Lomax and Casey (1998:27), this gain in authorship led to valuable insights about the topic of the study (midwife-client interaction). Lomax and Casey (1998:27) write that:

‘...a midwife’s attempt to influence when the camera is turned on can, reflexively analysed, provide insights into how midwives organise and differentiate between different parts of their professional duties.’

5.3.2 Example 2: Clark and Zimmer (2001)

Clark and Zimmer (2001) studied infant health in Denver, Colorado, with a view to learn about the children's family relationships, feeding patterns as well as safety and sanitation in their home environment. Three different photographic methods were compared in the course of the study. The methods involved (a) photographs taken by the mothers of the children with disposable cameras, (b) photographs taken by research staff during home visits, and (c) ‘Day in the Life’ type photographs taken by the researchers in a day-long period of intensive observation. The unit of analysis of the study was children aged up to 19 months (designated with a domain label commencing with 'B'). All photographs were generated for the purpose of the study or *ex ante* (the domain labels '1' and i-ii apply).

An interesting feature of the study was that Clark and Zimmer (2001:305) commenced the project by asking the mothers of the children to take photographs of their children (i.e. mother-generated photographs). The mothers were supplied with

disposable cameras and asked to take 27 photographs of their infants in health-related situations over a three-month period. The mothers were asked to document or record events or situations which they considered relevant to the child's health. Clark and Zimmer (2001:307) report that '...of the 2300 photographs possible for this period, only 1018 were developed and catalogued into the research database'. Possible reasons for the low number of images produced included:

- ◆ That some of the mothers had insufficient experience with using a camera
- ◆ That the cameras were used for other purposes. For example, one mother used her research camera to document the damage of a vehicle that had been in an accident
- ◆ As the mothers were the photographers, very few images with the mothers in the frame were produced. In this way, images of feeding the infant and other forms of interaction between the mother and the infant were not documented
- ◆ The mothers were anxious to see the images shortly after taking them. The three-month period proved impractical and in some cases the mothers developed the images without providing a copy to the research team.

Realising that the mother-generated photographs would be limited, Clark and Zimmer (2001:308) intervened by firstly taking photographs during home visits (the two authors and one research assistant documented situations relating to the infants' health) and, secondly, initiated a 'Day in the life of a toddler' project, which involved the research team documenting an infant's typical day in photographs as systematically as possible. Between the three photographic methods, 1018 mother-generated images were produced, 943 images were produced during the home visits

Table 5.3 Illustration of the framework as applied to Clark and Zimmer (2001)

ELEMENT	DESCRIPTION
Domain Label (cf. Table 4.3 and Table 4.4)	Move from B-1-III to B-1-I
Domain description	<p>The data are in a visual format (documentary photographs) and are generated for the purpose of the study (<i>ex ante</i>). Photographs were initially taken by the mothers of infants with a view to document factors relating to the infant's health. Following the mother-generated photographs, members of the research team took photographs during home visits and during a 'Day in the life of a toddler' project (i.e. researcher-generated photographs).</p>
Is the aim to ensure or evaluate validity?	Evaluate validity in a completed study
Description of the validity criterion / source of error / validity threat	Sampling adequacy or transferability
Methodological strategy that was followed / that is to be implemented	<p>The researcher role moved from participant to outsider as the members of the research team gained control over the production of the visual material in order to ensure sampling adequacy / to ensure adequate photographic documentation.</p>

Table 5.4 Methodological 'move' reported in Clark and Zimmer (2001) relating to researcher role

Is the unit of analysis visual material?	In which format is the data generated? (1-3)	Role of researcher (I-III)			
		Outsider (I)	Insider (II)	Participant (III)	
Yes, e.g. a family photo album (A)	Visual, e.g. a photograph (1)	A-1-I	A-1-II	A-1-III	
	Non-visual, e.g. verbal statement about a photograph (2)	A-2-I	A-2-II	A-2-III	
	Hybrid, e.g. video recording of gesture with verbal statement 'No' (3)	A-3-I	A-3-II	A-3-III	
No, e.g. an individual, a community, a concept (B)	Visual, e.g. a photograph (1)	B-1-I		B-1-III	
	Non-visual, e.g. verbal statement about a photograph (2)	B-2-I		B-2-II	B-2-III
	Hybrid, e.g. video recording of gesture with verbal statement 'No' (3)	B-3-I		B-3-II	B-3-III

and 1234 images were generated in the course of the 'A day in the life' project.

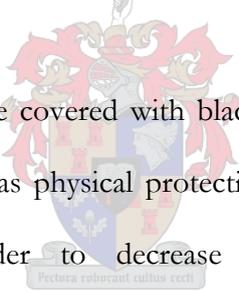
The above described intervention meant a methodological 'move' from a researcher role of participant in the case of the mother-generated images to a researcher role of outsider for the researcher-generated images, i.e. a move from cell B-1-III to B-1-I as illustrated in Table 5.4. The main motivation for the intervention was a threat to sampling adequacy, in the sense that the sample of mother-generated photographs did not adequately represent the events and situations pertaining to the infant's health which the researchers encountered during their home visits. As mentioned in Chapter 2, sampling adequacy and appropriateness pertain to ensuring sufficient saturation and replication of data (Morse et al. 2002:3), which serve as indicators that adequate data to account for the phenomenon being studied have been obtained. In order to address this potential lack of sampling adequacy or representativeness, the researchers resorted to taking photographs themselves. Here, the validity criterion would be external validity, sampling adequacy or representativeness as expressed from the perspective of the positivism and post-positivism paradigms and transferability from the perspective of the critical theory et. al. and constructivism paradigms.

5.3.3 Example 3: Rich and Chalfen (1999)

Rich and Chalfen (1999) aimed to describe how young patients with a chronic disease such as asthma can teach clinicians about the realities of day-to-day life with illness by means of patient-generated video narratives. The unit of analysis of the study is thus not visual material, designated with a domain label commencing with 'B'. The authors argued that insights about the illness experience of young patients are vital because 'clinicians routinely plan medical management with limited knowledge of how patients

interact with disease in their 'real-life' physical, psychological and social environments' (Rich and Chalfen, 1999:51). Rich and Chalfen gave 25 patients (which was reduced to 19 in the course of the study) with moderate or severe asthma aged between 8 and 19 years video cameras to document their illness experience. The data were in a visual format (the visual component of the video recordings) and generated for the purpose of the study or *ex ante* (the domain labels '1' and i-ii apply).

In the study, none of the participants had any previous experience with film- or video making (1999:54), which meant that in the visual material gathered and analyzed the emphasis was on the content (or on what is represented) and not on the formal aspects (e.g. what creative techniques were employed) or the aesthetic qualities of the video narratives. Rich and Chalfen (1999:54) write that:



'... the camcorders were covered with black tape and mounted in black aluminum cages, both as physical protection and to make them appear less valuable in order to decrease the risk to VIA [Video Intervention/Prevention Assessment] participants when they used the camcorders outside their homes or other controlled situations. The camcorders were fixed in automatic focus and exposure modes with zoom lenses locked in their wide-angle position.... Camcorder training was designed to give the participants competence in the technical aspects of shooting video without teaching visual style of composition, video-making techniques or otherwise influencing the way that they saw and portrayed their lives.'

Table 5.5 Illustration of the framework as applied to Rich and Chalfen (1999)

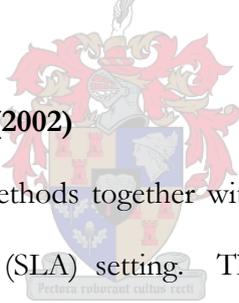
ELEMENT	DESCRIPTION
Domain Label (cf. Table 4.3 and Table 4.4)	Move from B-1-ii to B-1-i
Domain description	The data are in a visual format (the visual component of a video recording) and are generated for the purpose of the study (<i>ex ante</i>). Researcher control over the production of the visual material shifts from weak to strong. The participants received detailed instructions about what to document for the purpose of the study and received training in the technical aspects of video recording.
Is the aim to ensure or evaluate validity?	Evaluate validity in a completed study
Description of the validity criterion / source of error / validity threat	Consistency / data stability
Methodological strategy that was followed / that is to be implemented	Locking the camcorders supplied to the participants in automatic focus, wide angle and automatic exposure modes. While this strategy raised the level of standardization of the data collected, several opportunities for the creative use of the medium (e.g. lighting controls) remained, depending on the level of production literacy among the study participants.

Table 5.6 Methodological 'move' reported in Rich and Chalfen (1999) relating to researcher control over the production of the visual material

Is the unit of analysis visual material?	In which format is the data generated? (1-3)	Researcher control over the production of the visual material (i-iii)		
		Strong: <i>Ex ante</i> (i)	Weak: <i>Ex ante</i> (ii)	Weak: <i>Ex post</i> (iii)
Yes, e.g. a family photo album (A)	Visual, e.g. a photograph (1)	A-1-i	A-1-ii	A-1-iii
	Non-visual, e.g. verbal statement about a photograph (2)	A-2-i	A-2-ii	A-2-iii
	Hybrid, e.g. video recording of gesture with verbal statement 'No' (3)	A-3-i	A-3-ii	A-3-iii
No, e.g. an individual, a community, a concept (B)	Visual, e.g. a photograph (1)	B-1-i	B-1-ii	B-1-iii
	Non-visual, e.g. verbal statement about a photograph (2)	B-2-i	B-2-ii	B-2-iii
	Hybrid, e.g. video recording of gesture with verbal statement 'No' (3)	B-3-i	B-3-ii	B-3-iii

The above described methodological 'move' to standardise the production of the video material (a move from cell B-1-ii to B-1-i, see Table 5.6) raised the level of consistency or data stability (adopting the terminology of the constructivist paradigm, see Chapter 2) during the data collection phase of the research process. Even though Rich and Chalfen locked the camcorders supplied to the participants in automatic focus, wide angle and automatic exposure modes, there remains considerable scope for the application of creative techniques such as dramatic lighting or an unusual camera position, depending on the level of production literacy in the study participants. Production literacy refers to a heightening of interpretational awareness due to production experience in a particular medium of visual expression such as photography or videography (Messaris, 1994:180).

5.3.4 Example 4: DuFon (2002)



DuFon (2002) used video methods together with other ethnographic methods in a second language acquisition (SLA) setting. The study (DuFon, 2002 and 2000) involved an investigation of the acquisition of linguistic politeness in Indonesia by foreign language learners. The six study participants (a) agreed to being accompanied by the researcher to a tutoring session where the session was audio taped, (b) allowed the researcher to videotape them during a naturalistic interaction of their choice once during the course of the four-month program, (c) audio taped themselves in a minimum of nine naturalistic interactions with native speakers of Indonesia during the four-month program; and (d) kept a journal on what they learned about politeness in Indonesia through their interactions with Indonesian native speakers, including those which they had audio taped. The unit of analysis was thus SLA learners and their acquisition of linguistic politeness, i.e. a non-visual unit of analysis designated

with a domain label commencing with 'B'. Concerning the visual methods component of the study, the video material was generated for the purpose of the study or *ex ante* (the domain labels '1' and i-ii apply). Making her outsider researcher role explicit, DuFon (2002:43) writes that:

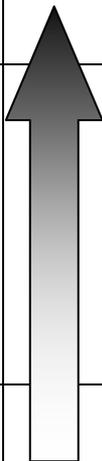
'Like the learners, I was a cultural outsider to the Indonesian community, easily identifiable as such by immutable characteristics such as my body height, skin and eye color, and nose shape, as well as behaviors such as foreign accent, posture, and gait, which with time and attention might increasingly conform to Javanese Indonesian norms... I shared with the four American learners a common national background and consequently a considerable amount of common cultural background. With all six learners, I shared a similar study-abroad experience. Yet I was not a total insider either. I was a generation older than the learners and my status was that of researcher, not student in the program.'

An interesting aspect of the paper is that DuFon (2002:49) asks the question whether or not the researcher should also be filmed. More specifically, she queries whether the ethnographer or videographer should be video recorded while doing his/her research tasks including that of video recording. The question highlights that the researcher role may be one of outsider, or a passive observer behind the camera, as opposed to an insider or participant where 'the ethnographer and/or videographer step out in front of the lens, thus allowing themselves to be seen by the viewer, reminding their audience that that their presence is having an effect on the course of events' (Collier, 1988; Rollwag, 1988 in DuFon, 2002:49).

Table 5.7 Illustration of the framework as applied to DuFon (2002)

ELEMENT	DESCRIPTION
Domain Label (cf. Table 4.3 and Table 4.4)	Move from B-1-I to B-1-III
Domain description	<p>The data are in a visual format (the visual component of a video recording) and are generated for the purpose of the study (<i>ex ante</i>).</p> <p>The researcher role shifts from outsider to participant as the researcher is coaxed or pressurised by the study participants to move from behind the camera and join them in front of the camera lens.</p>
Is the aim to ensure or evaluate validity?	Evaluate validity in a completed study
Description of the validity criterion / source of error / validity threat	<p>In the critical theory <i>et al.</i> paradigm, paralogical validity as defined by Lather (1993, 1995), i.e. an emphasis on dissensus, de-stabilising the researcher's position as master of truth and knowledge.</p>
Methodological strategy that was followed / that is to be implemented	<p>The researcher moved from passive observer behind the video camera to active participant in front of the camera lens. By yielding to the coaxing and pressure by the study participants to move from behind the camera lens, a democratisation of the research process occurred.</p>

Table 5.8 Methodological 'move' reported in DuFon (2002) relating to researcher role

Is the unit of analysis visual material?	In which format is the data generated? (1-3)	Role of researcher (I-III)		
		Outsider (I)	Insider (II)	Participant (III)
Yes, e.g. a family photo album (A)	Visual, e.g. a photograph (1)	A-1-I	A-1-II	A-1-III
	Non-visual, e.g. verbal statement about a photograph (2)	A-2-I	A-2-II	A-2-III
	Hybrid, e.g. video recording of gesture with verbal statement 'No' (3)	A-3-I	A-3-II	A-3-III
No, e.g. an individual, a community, a concept (B)	Visual, e.g. a photograph (1)	B-1-I		B-1-III
	Non-visual, e.g. verbal statement about a photograph (2)	B-2-I	B-2-II	B-2-III
	Hybrid, e.g. video recording of gesture with verbal statement 'No' (3)	B-3-I	B-3-II	B-3-III

Concerning the tension between outsider/participant status, DuFon (2002:50) reports that: '...another factor influencing my level of observation versus participation was the pressure applied by Indonesians for me to participate. Although originally it was my intention to remain behind the camera lens, I found that the Indonesians were not always content to have me there. They frequently coaxed me to join them in their activity, to the point that it felt rude not to accept. Consequently, I often became a participant in the interactions I was observing.'

The methodological 'move' from outsider to participant (see Table 5.8) - or from behind the video camera to in front of the video camera - may be described as a strengthening of the paralogical validity during the data collection phase of the project (the notion of paralogical validity resorts under the critical theory et al. paradigm of scientific inquiry). Paralogical validity as defined by Lather (1993, 1995) refers to an emphasis on dissensus, or a de-stabilising of the researcher's position as master of truth and knowledge. In her study, DuFon made the lack of consensus about the researcher role between the study participants and herself explicit. By in the end yielding to the participant's pressure to move from behind the camera to in front of the camera, DuFon contributed to a democratisation of the research process, which is one of the central aims of Lather's transgressive validity, of which paralogical validity is one aspect.

5.3.5 Example 5: Chaplin (1994)

Chaplin describes a research project using visual methods conducted with a view to 'make a contribution to existing sociological theory on routine' (1994:224). Chaplin (1994:224) used a visual diary approach which she describes as follows:

'I knew from Bateson and Mead (1949) and Berger (1972) that a sequence of photographs can convey a more complex set of ideas than it is possible to generate from within a single photograph. And I learnt from Burgin (1986) that to attempt to produce work which is solely visual is to create an artificial situation; for in social science, as in social life, there can be no fundamental categorical separation between words and images. So I conceived the idea of a 'visual diary', which would (more accurately) consist of a daily photograph accompanied by a short descriptive daily passage.'

The unit of analysis of the study was the concept of routine, i.e. a non-visual unit of analysis. The daily photograph was produced for the purpose of the study, or *ex ante*, by an insider (i.e. the researcher documented her own daily routine). Chaplin (1994:225) notes that taking a daily photograph:

'... soon seemed problematic because it showed that there are so many moments in the day that could be photographed, and so many alternative captions that could be attached to each photograph'.

The validity criterion identified by Chaplin is sampling adequacy and appropriateness, or ensuring sufficient saturation and replication of data (Morse, 1991, see Chapter 2). Chaplin's strategy or methodological 'move' was the creation and refinement of 'rules' which governed how the daily photograph was taken. For example, in the first months of the first year of the project, she took one photograph every day.

Table 5.9 Illustration of the framework as applied to Chaplin (1994)

ELEMENT	DESCRIPTION
Domain Label (cf. Table 4.3 and Table 4.4)	Move from B-1-ii to B-1-i
Domain description	The data are in a visual format (the visual or photographic component of a visual diary) and are generated for the purpose of the study (<i>ex ante</i>). Researcher control over the production of the visual material shifts from weak to strong as the 'rules' that govern how the daily photograph was taken became more exact.
Is the aim to ensure or evaluate validity?	Evaluate validity in a completed study
Description of the validity criterion / source of error / validity threat	Sampling adequacy and appropriateness
Methodological strategy that was followed / that is to be implemented	Repeated amendment/ increasing exactness of the 'rules' that stipulated how the daily photograph for the visual diary was be taken. For example, at the beginning of the project a photograph was taken once a day, whereas towards then end of the project the daily photograph was taken at exactly noon, wherever the researcher was at that time.

Table 5.10 Methodological 'move' reported in Chaplin (1994) relating to researcher control over the production of the visual material

Is the unit of analysis visual material?	In which format is the data generated? (1-3)	Researcher control over the production of the visual material (i-iii)		
		Strong: <i>Ex ante</i> (i)	Weak: <i>Ex ante</i> (ii)	Weak: <i>Ex post</i> (iii)
Yes, e.g. a family photo album (A)	Visual, e.g. a photograph (1)	A-1-i	A-1-ii	A-1-iii
	Non-visual, e.g. verbal statement about a photograph (2)	A-2-i	A-2-ii	A-2-iii
	Hybrid, e.g. video recording of gesture with verbal statement 'No' (3)	A-3-i	A-3-ii	A-3-iii
No, e.g. an individual, a community, a concept (B)	Visual, e.g. a photograph (1)	B-1-i	B-1-ii	B-1-iii
	Non-visual, e.g. verbal statement about a photograph (2)	B-2-i	B-2-ii	B-2-iii
	Hybrid, e.g. video recording of gesture with verbal statement 'No' (3)	B-3-i	B-3-ii	B-3-iii

This rule was later amended to taking the photograph between 11 a.m. and noon every day. The rule was later tightened to taking a photograph each day at exactly noon, regardless where the researcher was at the time (Chaplin, 1994:225). Chaplin notes that while the activity of controlling the time at which the photograph was taken did ensure sampling appropriateness, it also highlighted that '... there were yet more variables to control. For example, there are countless alternative directions in which to point the camera at any one particular moment' (1994:226).

5.4 The relationship between methodological 'moves' and validity

As mentioned in Chapter 2, increasing one type of validity may result in decreasing another kind of validity (Cook and Campbell, 1979:82). An example provided by Cook and Campbell (1979:82) to illustrate the point is that '... internal validity is best served by carrying out randomized experiments, but the organizations willing to tolerate these are probably less representative than organizations willing to tolerate passive measurement [in the sense that low representivity is associated with weak external validity]'. Similarly, while a certain methodological 'move' or strategy (Mouton, 1996:111) may lower a validity threat in the context of one particular study, the same methodological strategy does not necessarily raise (a particular type of) validity in the context of a different study. The examples discussed above illustrate this context-specific nature of the notion of validity. For example, in the case of methodological 'moves' between strong and weak researcher control over the production of visual material produced *ex ante*:

- ◆ In the context of the study by Lomax and Casey (1998), the move from *strong to weak* researcher control lowered both procedural and personal reactivity

- ◆ In the context of Rich and Chalfen's (1999) study, on the other hand, the move from *weak to strong* researcher control increased consistency or data stability
- ◆ Similarly, the move from *weak to strong* researcher control increased the sampling adequacy and appropriateness in the study by Chaplin (1994). Interestingly, in the specific context of Clark and Zimmer's study (2001), the same validity criterion (sampling adequacy) was addressed by means of an entirely different methodological strategy, i.e. a 'move' from participant to outsider researcher role.

5.5 Discussion of the proto conceptual framework

In addition to the context-specific nature of validity in image-based research as discussed in the previous section, the illustrative case studies also highlight two related issues. Firstly, the examples show how reflexivity on the part of the researcher (see Chapter 4) plays an important role in the process of finding appropriate methodological 'moves' or strategies to address a particular validity criterion. In the study by DuFon (2002:49), for example, the researcher reflected about her role as outsider - or a passive observer behind the video camera - and then yielded to the coaxing by the participants to move from behind the camera and join them in front of the camera, thus raising the paralogical validity (Lather, 1993:677) of the data collection phase of the project.

Secondly, the case studies illustrate the methodological significance of the relative instability of iconic codes, or the 'indeterminacy' of iconic codes, as discussed in Chapter 3. A clear example is the study by Rich and Chalfen (1999:54), where an attempt was made to reduce the instability of the iconic codes - or to raise the data stability, see Chapter 2 - by locking the camcorders in automatic focus and exposure modes with the zoom lenses fixed in their wide-angle position, and by giving the

study participants clear instructions before the data collection phase of the study commenced.

While the proto validity framework described in this chapter has intrinsic face validity (Babbie and Mouton, 2001:642) in the sense that it flows from a review of various secondary sources and illustrative case studies, it is important to stress, as mentioned in the conclusion of Chapter 4, that the key domains of visual methods used as a point of departure for the formulation of the framework are not exhaustive and do not necessarily cover all conceivable aspects of image-based research practice.

Rather, the validity framework is meant as a heuristic device to assist researchers in making explicit what the underlying conditions or 'determinants' of contextual validity in a particular image-based research setting are, such as the way the visual material was produced (*ex post* or *ex ante* with weak or strong researcher control) or the role of the researcher (insider, outsider, participant). These underlying conditions are then linked with validity criteria as identified by the researcher in a particular context - such as data instability stemming from the instability of iconic codes, for example - as well as the methodological strategies or 'moves' flowing from such criteria.

5.6 Summary and conclusion

In this chapter the elements of the conceptual framework for validity in image-based research were elaborated on and the framework was illustrated by means of examples from the image-based research literature. In addition to highlighting the context-dependant nature of validity, the importance of reflexivity in image-based practice and the methodological significance of the relative instability of iconic codes, it emerged during the illustration of the framework that the research philosophy or inquiry

paradigm preference of the researcher or research team was not made explicit in the five studies used as examples, i.e. Lomax and Casey (1998), Clark and Zimmer (2001), Rich and Chalfen (1999), DuFon (2002) and Chaplin (1994). According to Tashakkori and Teddlie (1998:21), a research publication where the research philosophy of the author(s) is openly stated is the exception to the rule. Tashakkori and Teddlie (1998:21) write that:

'Most good researchers prefer addressing their research questions with any methodological tool available, using the pragmatist credo of “what works”... For most researchers committed to the thorough study of a research problem, method is secondary to the research question itself, and the underlying worldview hardly enters the picture, except in the most abstract sense'.

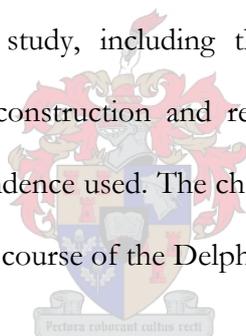


CHAPTER 6

DESIGN OF THE DELPHI STUDY

6.1 Introduction

In this chapter, the procedures followed during the implementation of the Delphi technique are made explicit. As stated in the introduction of the dissertation, the aim with the Delphi study was to refine the conceptual framework for validity in image-based research formulated on the basis of the literature review by canvassing the opinions of experts. The chapter commences with a description of the strengths and weaknesses of the Delphi process and proceeds with a discussion of the procedure followed in this particular study, including the identification and invitation of participants as well as the construction and refinement of the questionnaire that formed part of the correspondence used. The chapter ends with a description of how the responses received in the course of the Delphi process were handled.



6.2 Strengths and limitations of the Delphi technique

The name of the Delphi procedure derives from the Delphic oracle's skills of interpretation and foresight (Jones and Hunter, 1995:377). According to Gordon (1992:25), it was developed in the 1960s by Olaf Helmer and Nicholas Rescher (see Helmer and Rescher, 1969) as a technique for forecasting or futures research that proceeds from the basic assumption that 'experts, particularly when they agree, are more likely than nonexperts to be correct about future developments in their field' (Gordon, 1992:26). On a practical level, the Delphi procedure was developed because:

'...bringing experts together in a conference room introduces factors that may have little to do with the issue at hand... For example, the loudest voice rather than the soundest argument may carry the day; [or] a person may be reluctant to abandon a previously stated opinion in front of his or her peers.... In this approach, experts were first identified and asked to participate in the inquiry. They were assured of anonymity in the sense that none of their statements would be attributed to them by name.... In a sense, this was a controlled debate, and more often than not, the group moved toward consensus' (Gordon, 1992:26).

Anonymity and feedback, which are two core elements of a Delphi study (Gordon, 1992:26), are achieved by pooling the opinions of a group of experts in a series of rounds (Baca, 1990:41, Jones and Hunter, 1995:377, Reid, 1988:232). These typically involve:

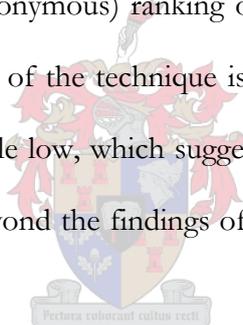


Round 1: Either the relevant individuals are invited to provide opinions on a specific matter, based on their knowledge and experience, or the team undertaking the Delphi study expresses opinions on a specific matter and selects suitable experts to participate in subsequent questionnaire rounds. These opinions are grouped together under a limited number of headings and statements are drafted for circulation to all participants.

Round 2: Participants rank their agreement with each statement in the questionnaire. The rankings are summarized and included in any future versions of the questionnaire as background information.

Round 3: Participants re-rank their agreement with each statement in the questionnaire, with the opportunity to change their score in view of the group's response, or specific motivations from other participants. The re-rankings are summarized and assessed for degree of consensus (as a general rule, a t-test is used). If an acceptable (i.e. statistically significant) degree of consensus is obtained, the process may end, and final results are supplied to the participants. If no consensus is obtained, the third round may be repeated.

While the possible emergence of consensus is typically measured as part of the Delphi procedure, the strength of the technique lies in the first instance with pooling the views of experts and the (anonymous) ranking of these views, rather than achieving consensus *per se*. A weakness of the technique is that the number of respondents or participants is as a general rule low, which suggests that even if consensus is reached it may not be generalized beyond the findings of the study. Gordon (1992:27) states this as follows:



'Because the number of respondents is usually small, Delphi studies do not -and are not intended to- produce statistically significant results; in other words, the results provided by any panel do not predict the response of a larger population or even a different Delphi panel. The value of a Delphi study rests in the ideas it generates, both those that evoke consensus and those that do not.'

6.3 The procedure followed

In this study, the Delphi procedure was used with a view to refine the conceptual framework for validity in image based research developed on the basis of the literature review. The Delphi technique allowed for input from researchers familiar with visual methods about validity issues while at the same time minimising individual and group dynamics (Baca, 1990:11). The main features of the procedure followed were:

- ◆ The statements used during the Delphi procedure were not generated by the panel of experts. Instead, a questionnaire containing pre-formulated statements was dispatched together with the invitation to participate. The statements about validity in an image-based setting were compiled on the basis of the conceptual framework developed and sent to 5 leading academics in image-based research for comment and then re-worked. The invitations to participate (voluntarily and without remuneration) were dispatched together with an explanation of what the Delphi procedure entails as well as a questionnaire (see Appendix B) inviting comment on statements about validity in image-based research as well as biographical questions
- ◆ In *Round 1*, participants indicated their level of agreement with the pre-formulated statements supplied and completed the remainder of the questionnaire. The completed questionnaires were processed and the information obtained during Round 1 was circulated to all participants during Round 2 (see Appendix C and D)
- ◆ In *Round 2*, participants had the opportunity to adjust the responses they gave in the previous round in the light of the new information received, i.e. an overview

of the (anonymous) responses and comments by other participants. Following this opportunity to adjust their responses or comment on information generated during Round 1, the Delphi procedure was terminated and the data obtained analysed (the result of the Delphi study is presented in the next Chapter).

6.4 Identification and invitation of experts

As the Delphi procedure rests on the adequate identification of experts as well as their participation, an initial task was to operationalise the concept of 'expert' as regards image-based research. The following indicators of expertise in the field of visual methods were used:

- ◆ Publication on an image-based research topic, by means of journal papers and/or conference papers and/or books and/or chapters in books
- ◆ Involvement in image-based research, ideally over an extended period, but not necessarily as an author of a journal paper reporting on the use of visual methods
- ◆ Membership of a professional association that concerns itself with issues of image-based research, particularly the International Visual Sociology Association, the International Visual Literacy Association and/or members of Visual Anthropology centres or networks (as listed on <http://www.visualanthropology.net/index.htm>)
- ◆ Membership of a Listserv discussion group which covers debate on image-based research topics, such as the IVSA Listserv (pre-dominantly members of the International Visual Sociology Association) and the Viscom Listserv (pre-dominantly members of Visual Anthropology networks)

- ◆ Involvement in the teaching of image-based research (e.g. visual anthropology, visual sociology) in an academic environment
- ◆ Membership of an editorial committee of (peer-reviewed) journals concerned with image-based research issues, such as the journal 'Visual Studies'.

On a practical level, the identification of experts involved firstly obtaining a list of e-mail addresses from the administrators of the Viscom and IVSA Listservers. It soon became clear that several individuals were members of both Listservers and that there was a need to eliminate duplicate e-mail addresses. Where an individual listed different e-mail addresses on the two Listservers, (e.g. jroger05@astro.temple.edu and jroger@fmnh.org, note these are not real addresses), an invitation to participate in the Delphi procedure was sent to both addresses (see Figure 6.1).

Secondly, the contact details of individuals who recently published journal papers were retrieved (typically by means of an internet search). The majority of experts identified in this way were members of either the IVSA Listserver or the Viscom Listserver or both. Experts who had recently (past five years, or January 1998 to Dec 2002) published a paper reporting the use of visual methods but were not on the two Listservers were added to the distribution list.

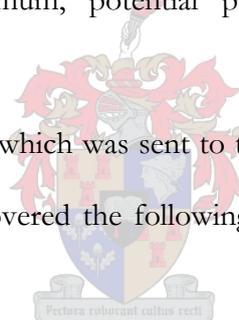
Thirdly, the contact details of members of the editorial boards of the peer-reviewed, international journals 'Visual Studies', 'Visual Anthropology' and 'Journal of Visual Literacy' were retrieved where available and added to the master distribution list after checking for duplicate e-mails.

Fourthly, an internet search for courses in an academic setting which deal specifically with image-based research and/or visual sociology and/or visual anthropology was conducted and the contact details of the course presenters were

retrieved where possible. All individuals identified this way were already included on the master distribution list.

Lastly, the correspondence that was sent to the experts identified (see the following section on questionnaire construction and refinement) included an item aimed at reputation ranking and an item in which participants were asked to indicate who should be approached to participate in the Delphi procedure if not approached already. These questions were phrased as follows (see Appendix B for a copy of the questionnaire): 'Please indicate who you consider most qualified to comment on the above statements (maximum five individuals)' and 'Please indicate who you feel should be approached to participate in this Delphi study in addition to the individuals indicated above (no maximum, potential participants without e-mail will be accommodated)'.

The correspondence which was sent to the 608 experts identified (642 e-mail addresses, see Figure 6.1) covered the following main items (see Appendix A for a copy of the letter circulated):



- ◆ Participation was voluntary
- ◆ No remuneration was offered for participating
- ◆ The assurance was provided that the responses would be kept anonymous
- ◆ The Delphi procedure was briefly explained
- ◆ The purpose of the study was briefly mentioned (research towards a DPhil qualification)
- ◆ A brief description of those approached / invited was supplied
- ◆ The opportunity was provided for those approached who opted not to participate to supply a brief reason

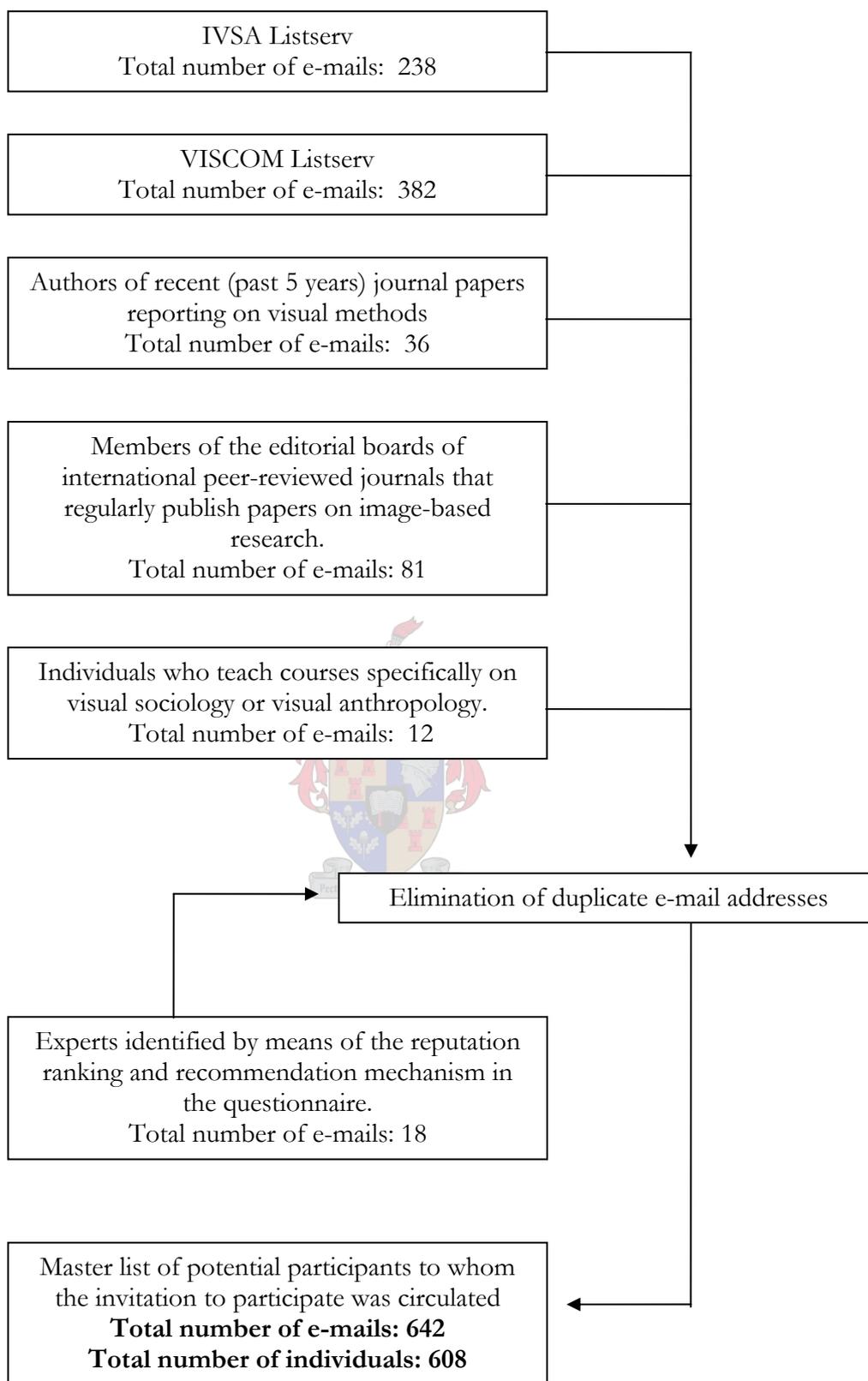
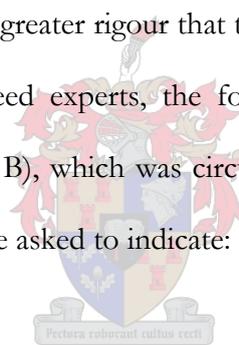


Figure 6.1 Identification and invitation of experts

- ◆ Those approached were invited to distribute the invitation to participate in the Delphi procedure as widely as possible.

6.5 Questionnaire construction and refinement

A weakness in the above described approach used to identify experts in the field of image-based research was that there was no guarantee that members of the IVSA Listserv or VISCOM Listserv were experienced in or informed about visual methods. Membership of these lists is not regulated and the assumption is that someone not interested in the postings or debates to the Listserv will in time unsubscribe or decline to renew the subscription. In order to overcome this weakness and to ensure with greater rigour that those who agreed to participate in the Delphi procedure were indeed experts, the following items were included in the questionnaire (see Appendix B), which was circulated together with the invitation to participate. Respondents were asked to indicate:



- ◆ Number of years involved in image-based research
- ◆ Combined/total number of journal papers and/or conference papers and/or books and/or chapters in books published in the area of image-based research
- ◆ Area of specialisation or special interest within image-based research (e.g. indigenous knowledge, video methods).

In addition to a question phrased 'What is to you the most pressing issue as far as validity in image-based research is concerned?', the main body of the questionnaire was devoted to statements about validity in an image-based setting. In the early stages of the process of questionnaire construction, ten statements that derived from

the typology of visual methods and the conceptual framework for validity in image-based research discussed in the previous chapters were formulated. These statements were sent to five leading academics in the field of image-based research (number of journal papers published in the past five years, editorship of a journal that regularly publishes papers on image-based research and position of leadership in a professional association concerned with image-based research were used to identify the five experts). In the feedback received from these experts and from the supervisor of the project, the main suggestion was to reduce the number of statements to between four and six. On the strength of this advice, the following five statements were eliminated:

- ◆ Verbal comments/explanations about data that are in a visual format lead to an impoverishment of the visual data
- ◆ Multiple visual representations (e.g. multiple cameras recording the same event) increase or improve validity
- ◆ Multiple visual representations (e.g. multiple cameras recording the same event) increase reactivity (i.e. the presence of the cameras/recording equipment influences the behaviour of those being observed)
- ◆ The visual and non-visual components of mixed data (e.g. a video recording of a group interview) should not be separated
- ◆ The lower the visual literacy of the producer, the higher the validity of the visual material.

The following five statements were retained after minor adjustments (confer Appendix B):

Statement 1: Validity refers to the quality of the fit between observations/facts/data and the conclusions based on such observations/facts/data. (see Chapter 2).

Statement 2: Visual methods lead to more valid conclusions when the unit of analysis of the study (or the entity being studied) is visual material than when this is not the case (e.g. individual behaviour, social actions).

Statement 3: Validity threats are lowered when the role of the researcher using visual methods shifts from 'outsider' towards 'participant'.

Statement 4: Respondent validation techniques, such as interviewing study participants about the experience of being video-taped to establish whether the presence of the camera/recording equipment influenced their behaviour, increase validity.

Statement 5: Visual material specifically generated for the purpose of a study leads to more valid conclusions than when existing visual material is used.

As indicated on the questionnaire (see Appendix B), the references for each statement were not included in order to reduce respondent bias. The references were supplied to the participants at the end of Delphi procedure (see Appendix E for a copy of the final message circulated). Participants were asked to indicate their level of agreement with these five statements in the following categories (see Appendix B):

- ◆ Agree without comment
- ◆ Agree with comment (space was provided to type a comment)

- ◆ Disagree without comment
- ◆ Disagree with comment (space was provided to type a comment).

Concerning Statement 1, a definition of validity was included in the questionnaire in order to reduce the likelihood that the experts approached would decline to participate with a reply such as 'it all depends how you define validity'. As the comprehensive definition of validity formulated at the end of Chapter 2 was considered unsuitable due to its length, the basic working definition in Chapter 2 was simplified and included as Statement 1.

Statements 2-5 together contain the core elements of the validity framework developed in the previous chapters, i.e. that validity threats in image-based research relate primarily (a) to whether the unit of analysis is visual material or not and (b) to the extent of researcher control, which is influenced by the role of the researcher (insider, outsider, participant) as well as how the visual material was produced (e.g. visual material generated for the purpose of the study as opposed to existing visual material). In addition, the 'open' question 'What is to you the most pressing issue as far as validity in image-based research is concerned?' aimed to check or validate whether the validity framework developed accommodates the central issues raised by the participants.

For Round 2, several items in the questionnaire used in Round 1 were removed (see Appendices C and D). The participants were invited to adjust the responses supplied in Round 1 in the light of the new information received by typing the new response(s) only in the spaces provided in the amended questionnaire (see Appendix D). The items removed referred to:

- ◆ Number of years involved in image-based research

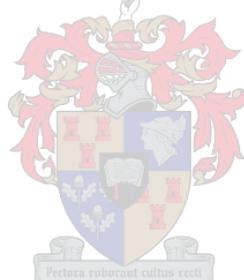
- ◆ Combined/total number of journal papers and/or conference papers and/or books and/or chapters in books published in the area of image-based research
- ◆ Area of specialisation or special interest within image-based research (e.g. indigenous knowledge, video methods)
- ◆ The reputation ranking component of the questionnaire, (i.e. the request to indicate 'who you consider most qualified to comment on the above statements')
- ◆ The request to indicate who should be approached to participate in the Delphi procedure
- ◆ The request to indicate reasons for non-participation.

6.6 Processing and analysis of responses

The responses received were entered in a Microsoft Access database and later retrieved as needed. The information entered in the database included (a) the (verbatim) reasons for non-participation supplied, (b) the e-mail addresses and names of those who agreed to participate and (c) the responses to the questionnaire items (in either numerical or textual format) for each Delphi round. The 'report' tool of the database software enabled the effortless compilation of the (anonymous), verbatim responses compiled in alphabetical order and circulated as part of the correspondence in Round 2. The qualitative analysis of the comments received during Rounds 1 and 2 was conducted with the assistance of the qualitative data analysis software 'Atlas.ti'. This software was used to code the textual data using open coding, in vivo coding and code-by list procedures with a view to identify themes (Muhr, 1997; Tesch, 1990:78 in Babbie and Mouton, 2001:491,). The specific analysis objectives are described in the next chapter.

6.7 Summary and Conclusion

This chapter covered the strengths and limitations of the Delphi technique and elaborated on the identification and invitation of experts, the construction and refinement of the questionnaire and well as the approach adopted for the processing and analysis of the responses. While a total of 608 individuals were identified as potential experts and invited to participate in the Delphi study (see Figure 6.1), it is important to point out that the main source of error with Delphi studies is not related to sampling adequacy, as is the case, for example, with surveys (see Mouton, 2001:152). As mentioned earlier in this chapter, the number of Delphi participants is typically small and the strengths of the procedure lie in the first instance with the ideas generated and insights shared by the panel of experts.



CHAPTER 7

RESULT OF THE DELPHI STUDY

7.1 Introduction

In this chapter, the results of the Delphi procedure are presented. The chapter covers both the numerical and textual data generated in the course of the Delphi process. However, the emphasis is on the analysis of the textual data, i.e. the comments and verbal replies of the Delphi participants. The chapter commences with a discussion of the response rate and an overview of the data generated, followed by an elaboration of the analysis strategy followed. The themes identified in the textual data formed the basis of minor refinements to the to the conceptual framework .for validity in image-based research, which are discussed in the last section of the chapter.

7.2 Response rate and overview of data generated

Of the 624 e-mail addresses to which the invitation to participate in the Delphi procedure was circulated, 54 were defunct and 4 auto responses (i.e. 'out of office' replies) were received. Of the remaining 566 e-mail addresses belonging to 538 individuals, 18 individuals agreed to participate, 10 individuals supplied reasons for not participating, and 5 individuals indicated that they would not participate without supplying reasons. The response rate was thus 6.13% and the participation rate was 3.35%. According to Sheehan (2001:10), response rates to e-mailed questionnaires have consistently decreased since 1986. On the basis of a review of e-mail response rates and response rate influences conducted for the period 1986 to 2000, Sheehan (2001:10) writes that:

'... the strongest predictor of response rate was the year in which the survey was published. As time progresses, it seems likely that response rates to e-mail surveys will continue to decrease!'

The majority of individuals who supplied reasons for not participating indicated that they were unable to do so due to other commitments. Other reasons for not participating included (verbatim):

- ◆ 'Validity for me is not a relevant concept. It comes out of a positivist scientific notion and indicates that certain interpretations are "more true" than others. Any viewing of visual material and any interpretation thereof will always be guided by subjective parameters and preferences. The only validation we can offer is to make this process clear and to give others a chance to contest our opinion'
- ◆ 'I think you should realize that your questions and expectations of those replying to this questionnaire are much more revealing about your own presumptions about the nature of research than anything you will get in reply!'
- ◆ 'I think I should decline to participate, as I'm unable to find much meaning in the statements. For example, in Statement 1, I can't see that validity necessarily has to have anything to do with conclusions (something can be valid without involving conclusions at all), and in Statement 2, it makes no sense to me that individual behaviour and social actions can't also be 'visual material'. It's not a matter of agreeing or disagreeing with the statements-it's that I find their assumptions untenable.'
- ◆ 'I don't feel qualified enough. I am only an undergrad student in visual anthropology!'

The 18 individuals who agreed to participate were placed into two groups, an 'expert' group and an 'interest' group on the basis of the biographical information supplied. As illustrated in Table 7.1, 15 individuals were placed in the 'expert' group as the combined/total number of journal papers and/or conference papers and/or books and/or chapters in books published in the area of image-based research was reported as 2 or higher and 3 individuals belonged to the 'interest' group as their total number of publications in image-based research was reported as less than 2. The 3 non-expert respondents were excluded from the study leaving 15 experts (see Table 7.1).

All 15 participants supplied detailed comments in the course of Round 1. These replies were processed and circulated to the panel of experts (see Appendix C and D) during Round 2. In Round 2, the majority of participants indicated that they did not wish to adjust their Round 1 replies. One participant did amend the comments supplied in Round 1. The data generated during the Delphi procedure thus covers:

- ◆ Statements dealing with reasons for non-participation (supplied above)
- ◆ Reputation ranking data, i.e. responses to the question 'Please indicate who you consider most qualified to comment on the above statements (maximum five individuals)'. The individuals identified were Jon Wagner (3 nominations), Marcus Banks (3), Jon Prosser (2), Jay Ruby (2), Doug Harper (2), Caroline Knowles, David MacDougall, Elizabeth Chaplin, Elizabeth Edwards, Gunther Kress, Hedy Bach, John Grady, Norman Denzin, Richard Chalfen, Rune Pettersson, Sarah Pink, Steven Gold and Yvonna Lincoln. In total, the names of 19 individuals were supplied in response to the reputation ranking and recommendation mechanism in the questionnaire. All of these individuals were approached to participate in the Delphi study. While respondents provided the

Table 7.1 Delphi study participant profiles (cf Appendix B)

Respondent number	Group (Expert / Interest)	Number of years involved in IBR	Number of publications in IBR	Area of specialisation in image-based research (IBR)
1	Interest*	1	0	Multimedia
2	Interest*	1	0	Documentary photography
3	Interest*	5	0	Video methods
4	Expert	4	2	Photo elicitation
5	Expert	3	2	Using film and television as historical 'evidence'
6	Expert	3	3	Photography, indigenous knowledge
7	Expert	5	4	Representations of and in technology
8	Expert	4	4	Providing a means of presenting complex lived experiences (phenomenologically and semiotically)
9	Expert	5	5	Visual literacy
10	Expert	12	5	None supplied
11	Expert	10	6	Counselling, professional development, reflective practice
12	Expert	17	10	Video in programme evaluation
13	Expert	10	10	Photography, Art and design research methods
14	Expert	15	10	Visual literacy, Education
15	Expert	25	25	Ethnography of visual culture
16	Expert	25	28	Typology of visual research, visual methodology in general, visual essay, image and representational practices in science
17	Expert	40	50	Interview behaviour analysis
18	Expert	33	100+	Urban and community sociology, Photography

* Excluded from the Delphi Study

names of individuals to be approached, not a single e-mail address was supplied. One participant wrote 'These are all well known authors in the field: you can do your own legwork in terms of tracking down their contact information. You've no business asking others to provide this for you... Generate your own mailing list or buy it from one of the existing visually oriented scholarly associations'

- ◆ The degree of agreement with regard to the five statements supplied for Round 1 and Round 2, see Table 7.2. Emerging consensus was not calculated as the majority of participants opted not to adjust their responses in Round 2 and the shift in responses from Round 1 to Round 2 was negligible
- ◆ Verbatim statements in reply to the question 'What is to you the most pressing issue as far as validity in image-based research is concerned?' for Round 1 and Round 2. In Round 2, a single comment was added, which read 'Lack of solid theory on image-based research methodology'
- ◆ Verbatim comments about the five statements supplied. In Round 2, (a) the comment 'It depends on the researcher's ability to become an 'unbiased' participant' was added augmenting an 'undecided' response to Statement 3 [Validity threats are lowered when the role of the researcher using visual methods shifts from 'outsider' towards 'participant'.], and (b) the comment 'Again, it depends on the nature and goal of the study. Sometimes a combination of existing and specifically generated material, is the best platform to increase result validity' was added in response to an 'undecided reply to Statement 5 [Visual material specifically generated for the purpose of a study leads to more valid conclusions than when existing visual material is used].

Table 7.2 Level of agreement with Statements 1-5, Delphi Rounds 1-2 (n=5)

Statement	Percent Agree		Percent Disagree		Percent Undecided	
	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2
	Statement 1 Validity refers to the quality of the fit between observations/facts/data and the conclusions based on such observations/facts/data	53.3	53.3	46.6	46.6	0.0
Statement 2 Visual methods lead to more valid conclusions when the unit of analysis of the study (or the entity being studied) is visual material than when this is not the case (e.g. individual behaviour, social actions)	33.3	20.0	66.6	80.0	0.0	0.0
Statement 3 Validity threats are lowered when the role of the researcher using visual methods shifts from 'outsider' towards 'participant'	33.3	33.3	53.3	53.3	13.3	13.3
Statement 4 Respondent validation techniques, such as interviewing study participants about the experience of being video-taped to establish whether the presence of the camera/ recording equipment influenced their behaviour, increase validity	66.6	66.6	26.6	26.6	6.6	6.6
Statement 5 Visual material specifically generated for the purpose of a study leads to more valid conclusions than when existing visual material is used	13.3	13.3	86.6	80.0	0.0	6.6

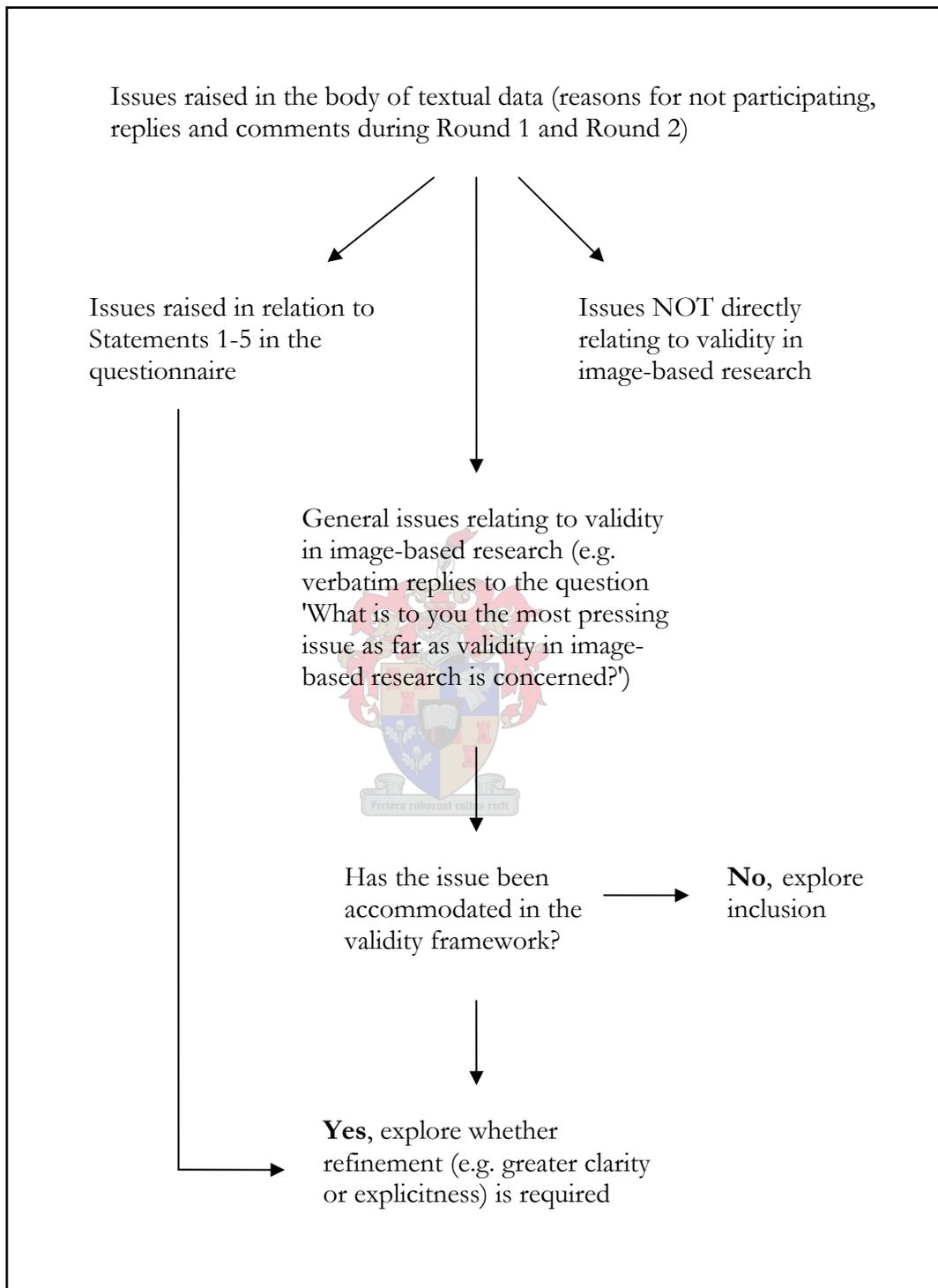
7.3 Analysis of the textual data

The various verbatim comments made by members of the panel of experts throughout the Delphi procedure (i.e. reasons for not participating, replies and comments during Round 1 and Round 2) were placed into three categories (see Figure 7.1). These are:

- ◆ Issues raised in relation to Statements 1-5 in the questionnaire
- ◆ General issues relating to validity in image-based research, e.g. verbatim replies to the question 'What is to you the most pressing issue as far as validity in image-based research is concerned?'
- ◆ Issues not directly relating to validity in image-based research, such as ethical issues raised by one respondent. In reply to the question 'What is to you the most pressing issue as far as validity in image-based research is concerned?' the respondent wrote 'Ethical concerns. Does the respondent know - really know - the purpose of the study? Who is the audience? How can the intentions of the respondent and the researcher be reconciled? Who sees the visual material and for what purpose? Does the respondent know about all possible audiences? Does the researcher?' For ethical issues relating to the collection, transcription and presentation of recorded data see, among others, Asch (1992), Besnier (1994), Biella (1988), Duranti (1997), Erickson (1992), Grimshaw (1982b), Harvey (1991, 1992), Heider (1976), Iino (1999), Punch (1986), Ruby (2000), and Watson-Gegeo *et al.* (1981) in DuFon (2002).

The textual data in the first two of the above three categories was coded with a view (1) to identify pertinent issues and themes relating to validity in image-based research,

Figure 7.1 Analysis of the textual data



and (2) to establish whether an issue raised by the expert panel has been sufficiently accommodated in the conceptual validity framework developed in the previous chapters. The analysis of the textual data thus involved (a) a description of the issue raised (b) selected quotes from the body of textual data (c) an indication whether the issue raised has been sufficiently accommodated in the conceptual framework and (d) which amendments, if any, are required to the conceptual framework. The following pertinent issues / themes were identified in the textual data (see Appendix F for an unedited list of comments received during the Delphi study):

- A. Paradigms of scientific inquiry
- B. Explicitness / validity as quality of research craftsmanship
- C. Complexity of visual texts
- D. Visual literacy of the researcher
- E. Sampling issues
- F. Contextual anchorage of images
- G. Using visual methods together with other methods
- H. Researcher neutrality
- I. The context-dependent nature of validity.



These may be elaborated on as follows:

Theme A: Paradigms of scientific inquiry

A.1 Selected quote(s)

- ◆ 'Validity for me is not a relevant concept. It comes out of a positivist scientific notion and indicates that certain interpretations are “more true” than others.'

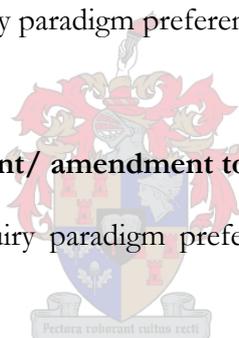
- ♦ 'Having the scholarly world sufficiently well educated to understand and honour that there are multiple realities and that research is as much a philosophical statement as it a rigorous inquiry; that the arrogance that has dominated scholarly work needs to be revisited'
- ♦ 'I prefer the term “credibility” to validity in this context. Validity is a quantitative word; if you are looking for a qualitative term (as in the definition), credibility fits more contextually.'

A.2 Has the issue been adequately accommodated in the framework?

Yes. The validity label and description of the validity criterion accommodate the main research philosophies/ inquiry paradigm preferences.

A.3 Suggested refinement/ amendment to the framework

Include an item 'Is the inquiry paradigm preference of the researcher and/or the evaluator known?'



Theme B: Explicitness/ validity as quality of research craftsmanship

B.1 Selected quote(s)

- ♦ 'The only validation we can offer is to make this process clear and to give others a chance to contest our opinion'
- ♦ 'The most pressing issue is the researcher reporting very clearly the assumptions, perceptions, expectations, and personal experiences involved while conducting the study. Open sharing of this information provides context for the reader to develop some sense of understanding (credibility) for the interpretations or

discussion/implications of the work. Not enough of this is done in image-based work'.

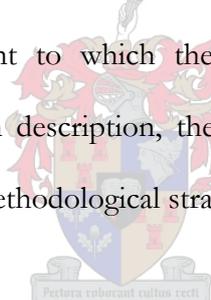
- ◆ 'Credibility threats are only lowered when the researcher provides a vivid description of how (s)he approached the work; reports personal assumptions going into the field; and, discusses changing roles, thoughts, assumptions and overall interpretations based on the data set'.

B.2 Has the issue been adequately accommodated in the framework?

Yes.

B.3 Suggested refinement/ amendment to the framework

None required - The extent to which the issue is addressed depends on the thoroughness of the domain description, the validity criterion description and the quality of reporting on the methodological strategies employed.



Theme C: Complexity of visual texts

C.1 Selected quote(s)

- ◆ '...an awareness of the multiple purposes of visual material, the diversity of 'visual research', and the need to treat visual images as complex rather than transparent'.

C.2 Has the issue been adequately accommodated in the framework?

Yes.

C.3. Suggested refinement/ amendment to the framework

None required - The complexity of visual texts is elaborated on in the domain descriptions as needed.

Theme D: Visual literacy of the researcher

D.1 Selected quote(s)

- ◆ 'The source which the visual material comes from and the researcher's experience in distinguishing between comparatively similar visual sources.'
- ◆ 'The ability of the 'participant' to understand and capture relevant material is essential, however, a mindful, perceptive 'outsider' can add new mental models to the observation and open new frames for understanding'.

D.2 Has the issue been adequately accommodated in the framework?

No.



D.3. Suggested refinement/ amendment to the framework

Add an item 'Is the level of visual literacy of the researcher and/or the evaluator known?'

Theme E: Sampling issues

E.1 Selected quote(s)

- ◆ '[The] selection of content for the visual frame' [is the most pressing issue as far as validity in image-based research is concerned]
- ◆ 'Problems of balancing need for naturalistic behaviour against hit or miss sampling this usually involves'.

E.2 Has the issue been adequately accommodated in the framework?

Yes.

E.3 Suggested refinement/ amendment to the framework

None required.

Theme F: Contextual anchorage of images**F.1 Selected quote(s)**

- ◆ 'The contextual anchorage of the image and the widely divergent representational status of an image (particularistic to more nominal or abstract content)
- ◆ 'Researchers using existing visual material need to be sensitive to the purposes for which the visual record has been produced, and hence the potential impact of this on findings (e.g. social historians shouldn't simply take photographs as evidence of how things were, without recognising the interests such image-making served and hence what may be excluded from the visual record).'

F.2 Has the issue been adequately accommodated in the framework?

Yes.

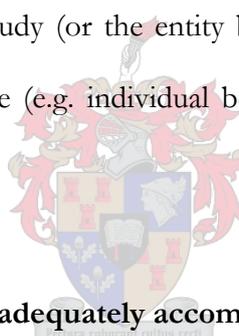
F.3 Suggested refinement/ amendment to the framework

None required - The contextual anchorage of visual texts is elaborated on in the domain descriptions as needed.

Theme G: Using visual methods together with other methods

G.1 Selected quote(s)

- ◆ 'Visual material should be used in conjunction with other material to allow for a variety of perspectives on the same entity. The visual material provides a particular perspective of its own and should be used to trigger more in-depth understanding of other perspectives.'
- ◆ 'Might be better when you can combine visual methods with a sophisticated use of other kinds of ethnographic research'
- ◆ 'I believe visual methods can be incorporated in a wider range of research than implied by the question [Visual methods lead to more valid conclusions when the unit of analysis of the study (or the entity being studied) is visual material than when this is not the case (e.g. individual behaviour, social actions).] with equal validity".



G.2 Has the issue been adequately accommodated in the framework?

Yes.

G.3 Suggested refinement/ amendment to the framework

This issue is elaborated on in the description of the methodological strategy as needed.

Theme H: Researcher neutrality

H.1 Selected quote(s)

'I have been struggling with this question for a while... In my research, I have become a participant, and sometimes feel as if it skews my judgement as an impartial observer.'

Yet on the other hand, I feel as if I could never understand what my subjects are relaying to me, if I myself don't become a participant..

H.2 Has the issue been adequately accommodated in the framework?

Yes.

H.3 Suggested refinement/ amendment to the framework

None required.

Theme I: The context-dependent nature of validity

I.1 Selected quote(s)

- ◆ 'The most pressing issue is the researcher reporting very clearly the assumptions, perceptions, expectations, and personal experiences involved while conducting the study. Open sharing of this information provides context for the reader to develop some sense of understanding (credibility) for the interpretations or discussion/implications of the work. Not enough of this is done in image-based work.'
- ◆ Again I think this depends on the particular study. Researchers using existing visual material need to be sensitive to the purposes for which the visual record has been produced, and hence the potential impact of this on findings (e.g. social historians shouldn't simply take photographs of as evidence of how things were, without recognising the interests such image-making served and hence what may be excluded from the visual record). However, in many cases the purposes for which visual records are made form part of the study (i.e. an understanding of

what it was felt important to record visually may be instructive about social and cultural values)'

- ◆ The textual material contains numerous short phrases that highlight the context-dependent nature of validity. Such phrases include 'It all depends', '...difficult to discern without a specific research question', '...often but not always' and 'This is not necessarily true'.

I.2 Has the issue been adequately accommodated in the framework?

Yes.

I.3 Suggested refinement/ amendment to the framework

None required.

7.4 Key outcomes of the Delphi procedure

Based on the responses by the expert panel to the pre-formulated statements about validity in image-based research and the analysis of the textual data, the key outcomes of the Delphi procedure are:

- ◆ That inquiry paradigm preferences are central to issues of validity. This applies to both the researcher (especially where the aim is to ensure validity) as well as to the evaluator (where the aim is to evaluate validity in a completed study).
- ◆ That validity threats in image-based research do not in the first instance rest on whether the unit of analysis of the study in which visual methods are used is visual material or not. In Round 2 of the Delphi procedure, 80% of the experts disagreed with the statement that 'Visual methods lead to more valid conclusions

when the unit of analysis of the study (or entity being studied) is visual material than when this is not the case (e.g. individual behaviour, social actions)' (Statement 2) and did not indicate in the comments supplied that they believe the opposite to be the case.

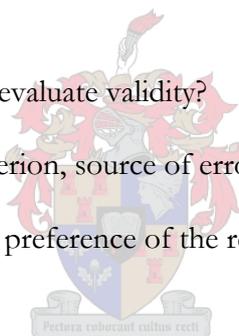
- ◆ That the visual literacy of the researcher, including an awareness of the complexity of visual texts, is central to validity in image-based research
- ◆ That validity threats in image-based research are not necessarily lower when visual material is generated for the purpose of the study (*ex ante*) than when existing visual material is used (*ex post*). In Round 2 of the Delphi procedure, 80% of the experts disagreed with the statement that 'Visual material specifically generated for the purpose of a study leads to more valid conclusions than when existing visual material is used' (Statement 5) and did not indicate in the comments supplied that they believe the opposite to be the case.
- ◆ That the role of the researcher is central to issues of validity, but that validity threats are not necessarily lowered when the researcher role shifts from outsider to participant.
- ◆ That the notion of validity is strongly context-dependent. In several cases, the responses suggest that the Delphi participants were not able to comment as constructively as they would have liked because the statements supplied were not formulated in a sufficiently context-specific way. Responses such as 'It all depends' or 'I tend to agree but am concerned that this is difficult to discern without knowledge of a specific research question' link with the view expressed in Chapter 5 that while a certain methodological 'move' or strategy (Mouton, 1996:111) may lower a validity threat in the context of one particular study, the

same methodological strategy does not necessarily raise (a particular type of) validity in the context of a different study.

7.5 The refined validity framework

Based on the key outcomes of the Delphi process, the refined conceptual framework for validity in image-based research comprises:

- ◆ The domain label(s)
- ◆ The domain description
- ◆ How visually literate are the stakeholders (researcher, study participant, evaluator etc.)?
- ◆ Is the aim to ensure or evaluate validity?
- ◆ What is the validity criterion, source of error or validity threat?
- ◆ Is the inquiry paradigm preference of the researcher and/or the evaluator known?'
- ◆ What methodological strategy or methodological 'move' was followed/will be implemented?



The minor refinements thus involve (a) that the level of visual literacy of the researcher is made explicit (confer Chapter 1 where image-based research is described as an area of overlap between visual literacy and scientific inquiry), and (b) that the inquiry paradigm preference (e.g. positivism, post-positivism, critical theory, constructivism, see Chapter 2) of the researcher and the evaluator of the research where applicable is clarified wherever possible.

Figure 7.2 The refined validity framework

Is the unit of analysis visual material?	In which format is the data generated? (1-3)	Role of researcher (I-III)		
		Outsider (I)	Insider (II)	Participant (III)
Yes, e.g. a family photo album (A)	Visual, e.g. a photograph (1)	A-1-I	A-1-II	A-1-III
	Non-visual, e.g. verbal statements about a photograph (2)	A-2-I	A-2-II	A-2-III
	Hybrid, e.g. video recording of gesture with verbal statement 'No' (3)	A-3-I	A-3-II	A-3-III
No, e.g. an individual, a community, a concept (B)	Visual, e.g. a photograph (1)	B-1-I	B-1-II	B-1-III
	Non-visual, e.g. verbal statements about a photograph (2)	B-2-I	B-2-II	B-2-III
	Hybrid, e.g. video recording of gesture with verbal statement 'No' (3)	B-3-I	B-3-II	B-3-III

Is the unit of analysis visual material?	In which format is the data generated? (1-3)	Researcher control over the production of the visual material (i-iii)		
		Strong: <i>Ex ante</i> (i)	Weak: <i>Ex ante</i> (ii)	Weak: <i>Ex post</i> (iii)
Yes, e.g. a family photo album (A)	Visual, e.g. a photograph (1)	A-1-i	A-1-ii	A-1-iii
	Non-visual, e.g. verbal statements about a photograph (2)	A-2-i	A-2-ii	A-2-iii
	Hybrid, e.g. video recording of gesture with verbal statement 'No' (3)	A-3-i	A-3-ii	A-3-iii
No, e.g. an individual, a community, a concept (B)	Visual, e.g. a photograph (1)	B-1-i	B-1-ii	B-1-iii
	Non-visual, e.g. verbal statements about a photograph (2)	B-2-i	B-2-ii	B-2-iii
	Hybrid, e.g. video recording of gesture with verbal statement 'No' (3)	B-3-i	B-3-ii	B-3-iii

Element	Description
Domain label(s), e.g. B-2-III	[add text here]
Domain description	[add text here]
Is the aim to ensure or evaluate validity?	[add text here]
What is the validity criterion, source of error or validity threat?	[add text here]
What methodological strategy or methodological 'move' was followed/will be implemented?	[add text here]
Is the inquiry paradigm preference of the researcher and/or the evaluator known?	[add text here]
How visually literate are the stakeholders (researcher, study participant, evaluator etc.)?	[add text here]

In other words, the results of the Delphi process suggest that important underlying conditions or 'determinants' of the notion of validity in image-based research setting are not limited to (1) the way the visual material was produced (*ex post* or *ex ante* with weak or strong researcher control) and (2) the role of the researcher (insider, outsider, participant), but also include broader issues relating to the level of visual literacy of the relevant stakeholders (researcher, study participant, evaluator etc.) as well as the inquiry paradigm preferences of the researcher and/or evaluator (i.e. positivism, post-positivism, critical theory et. al or constructivism, see Chapter 2).

7.6 Summary and Conclusion

As mentioned in the introduction of this dissertation, the Delphi procedure, which involves pooling the opinions of experts in a series of rounds, was included in this 'model-building' study as a checking mechanism to ensure that the assumptions made during the development of the conceptual framework fit sufficiently with image-based research practice. The result of the Delphi procedure presented in this chapter suggests that the main sources of error in image-based research practice were accommodated in the first version of the conceptual framework, and that only minor refinements were required. The themes identified in the textual data generated in the course of the Delphi procedure and the key outcomes of the Delphi phase of the study, including that the visual literacy of the researcher is central to validity in image-based research and that the notion of validity as applied to visual methods is strongly context-dependent, feed into the central thesis that emerges from the study, which is discussed in the final chapter.

CHAPTER 8

CONCLUSION

8.1 Summary of the preceding chapters

In the introductory chapter of the dissertation, the aims and objectives of the study were stated as follows:

- ◆ To review the literature on recent notions of validity. This literature review includes specifically notions of validity as utilized in image-based research
- ◆ To review the literature on image-based research with a view to map out the key domains of visual methods
- ◆ To develop a conceptual framework on the basis of the literature review that accommodates concerns and considerations regarding acceptable notions of validity in image-based research
- ◆ To refine the conceptual framework with a group of experts (i.e. researchers working with visual methods) by means of a Delphi study.

The literature investigation component of the study covered a review of the notion of validity in social research (Chapter 2), iconic codes in scientific inquiry (Chapter 3) as well the notion reflexivity and the various domains of visual methods (Chapter 4). These were taken as the point of departure for the development of a conceptual framework (Chapter 5) on the basis of which the correspondence for the Delphi component of the study (Chapter 6 and Chapter 7) was formulated.

Taken together, the literature investigation chapters of the dissertation as well as the outcome of the Delphi component of the study form the basis (1) for the central thesis that emanates from this study and (2) for a discussion of the contribution that this study intends to make to the research community in general and image-based research in particular.

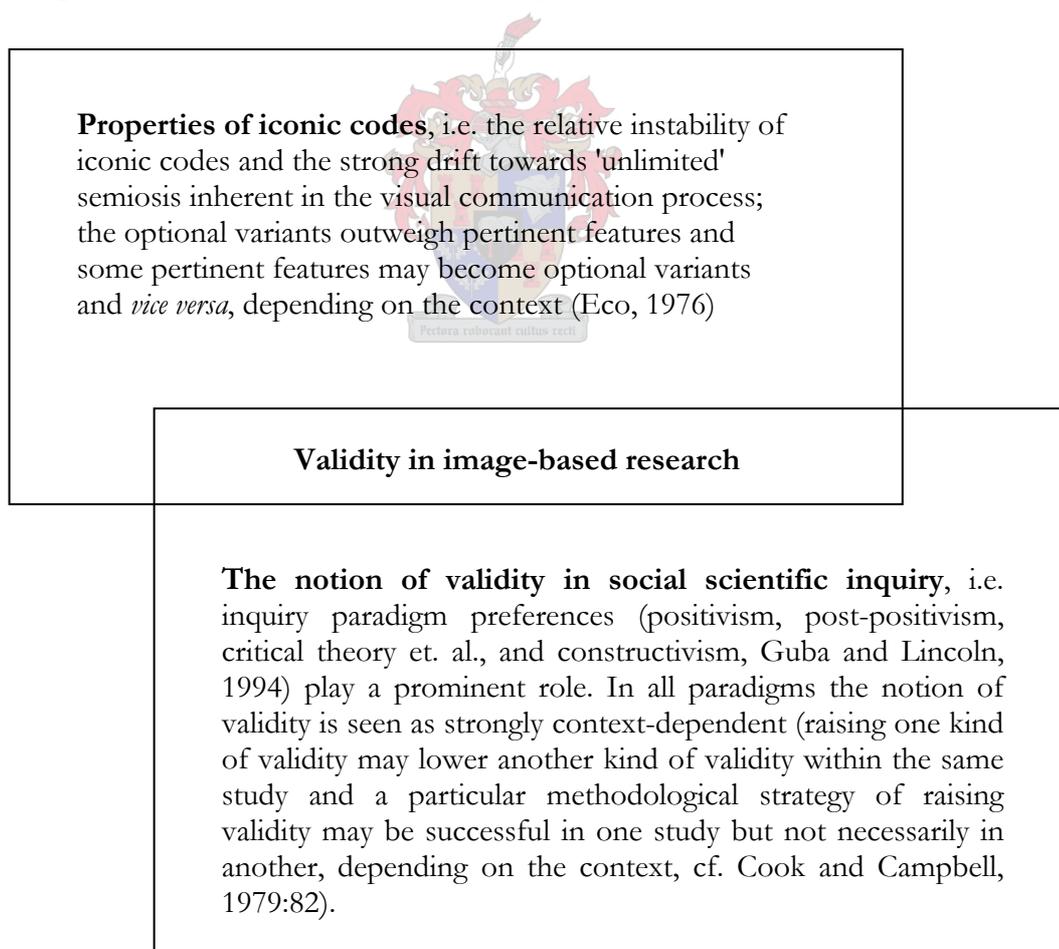
8.2 The central thesis of the study

Flowing from the underlying conditions or main 'determinants' of validity in image based research discussed in the previous chapters - i.e. the way the visual material was produced (*ex post* or *ex ante* with weak or strong researcher control) and the role of the researcher (insider, outsider, participant), seen against the background of the level of visual literacy and the inquiry paradigm preferences of the relevant stakeholders - the central thesis that emerges is that the notion of validity is strongly context-dependent and that this is compounded in the case of image-based research by the relative instability of iconic codes and the strong drift towards 'unlimited' semiosis inherent in the visual communication process.

In other words, the notion of validity as applied to visual methods is primarily contingent on (1) the inherent properties of iconic codes, i.e. that the optional variants outweigh pertinent features and some pertinent features may become optional variants and *vice versa*, depending on the context (Eco, 1976) and, (2) the strong context-dependent nature of the notion of validity, i.e. that raising one kind of validity may lower another kind of validity within the same study and that a particular methodological strategy of raising validity may be successful in one study but not necessarily in another, depending on the context, (cf., for example, Cook and Campbell, 1979:82), see Figure 8.1.

Specifically, the comments by Delphi participants stating that there is a need to 'treat visual images as complex rather than [as] transparent' and that the 'contextual anchorage of the image and the widely divergent representational status of an image' are important validity issues in image-based research (see Chapter 7 and Appendix E) link with the argument in Chapter 3 that, from a semiotic point of view, iconic codes are less stable than verbal codes and that this relative instability means that the drift towards 'unlimited' semiosis is greater in the case of iconic codes than in the case of verbal codes.

Figure 8.1. The notion of validity in image-based research



Further, comments by Delphi participants along the lines of 'depends on the particular study', 'often but not always' and 'this would depend on the relevance to the study question' (see Chapter 7 and Appendix E) confirm that the notion of validity is seen as strongly context-dependent. Importantly, this context-dependent property of the notion of validity features in all of the various approaches to validity discussed in Chapter 2 (i.e. approaches based on positivism, post-positivism, critical theory et. al. and constructivism, Guba and Lincoln, 1994).

8.3 The core contribution of the study

The central thesis of the study implies that it is incumbent on researchers using visual methods to reflect continually on both their role as researcher and their role as visual communicator (or, at a minimum, their role in the visual communication process) and how these roles link with validity criteria, such as data instability (Guba and Lincoln, 1994:112) stemming from the 'indeterminacy' of iconic codes, for example. The refined validity framework for image-based research (see Figure 7.2), which represents the core contribution of the study, is thus intended as a tool, or at the very least a point of departure, for structuring such reflections in a wide range of disciplines.

That is not to say that the utilisation of the refined validity framework in the course of an image-based research project necessarily raises validity. As Morse and Pooler (2002:63) point out, strict adherence to a framework may lower validity, in the sense that the investigation becomes limited to variables prescribed by the framework, controlling what the researcher sees as pertinent and relevant. Rather, the validity framework is intended as a heuristic device that summarises the key domains of visual methods primarily according to the way the visual material was produced (*ex post* or *ex ante* with weak or strong researcher control) and the role of the researcher

(insider, outsider, participant), and links these domains with validity criteria as identified by the researcher in a particular context, methodological strategies flowing from such criteria, as well broader issues, i.e. visual literacy and inquiry paradigm preferences. In this sense, the refined validity framework is perhaps better described as a *scaffold* than a framework (see Morse and Pooler, 2002:64).

Further, the validity framework developed in this study aims to complement (and not supplant) existing approaches to the process of compiling reflexive accounts about image-based research practice, some of which were used as a point of departure. An example is the generic producer-process-product format suggested by Myerhoff and Ruby (1982:5), on the basis of which a researcher using visual methods would continually ask questions about the *purpose(s)* of the study and the extent to which visual methods fit with this purpose, the role of the *producer(s)* of the visual material, the *processes* that lead to the production and use of the visual material in various contexts and the properties of the *product* or output of the image-based research process and how it is received.

In contrast to existing approaches, the validity framework developed in the course of this study is not based on the opinion of one or two (informed) experts, but on multiple opinions, including the opinions of researchers from the two separately conducted sub-disciplines of visual sociology on the one hand and visual anthropology on the other. While the possible emergence of consensus among the group of Delphi participants is sometimes measured, the Delphi technique is typically not applied primarily with a view to measure consensus. Rather, the value of the technique 'rests in the ideas it generates, both those that evoke consensus and those that do not' (Gordon, 1992:27). The Delphi process is thus essentially meant to structure the participation of experts in such a way that it can be demonstrated at the

end of the process that a point of saturation has been reached (cf. verification strategies by Morse, 1991, discussed in Chapter 2). In the case of the present study, this point of saturation was reached very early, in the sense that most participants opted not to add any further comments or change the responses they supplied during the first Delphi round, as opposed to a Delphi study which aimed to identify the critical constructs of visual literacy by Baca (1990), for example, where participation was still vigorous in the second round.

In contrast to the study by Baca (1990), where the Delphi participants formulated their own statements about visual literacy in the first round of the Delphi procedure and these participant-generated statements were then circulated for comment during the second Delphi round, the participants in this study were supplied with pre-formulated statements during the first round. As mentioned in Chapter 6, in the early stages of questionnaire construction an initial list of statements about the validity of visual methods was sent to five leading academics in the field of in image-based research for comment. This initial list of these pre-formulated statements was then refined on the basis of the feedback obtained. That a point of saturation was reached relatively early during the Delphi procedure of the present study may thus be explained by the fact that the participants commenced the Delphi process with a set of pre-formulated statements that had already undergone a process of refinement.

In this study, the Delphi participants were not asked to approve or reject a pre-formulated scheme for evaluating or ensuring validity in image-based research - which would have been pointless given the context-dependent nature of the notion of validity and the relative instability of iconic codes - but to identify validity issues in image-based research, comment on pre-formulated statements relating to the validity

of visual methods and thereafter consider the responses supplied by their fellow participants with a view to comment further or adjust the responses supplied in the first round if needed. The ideas generated in the course of the Delphi procedure were thus in the first instance a checking mechanism used to ensure that the assumptions made during the development of the conceptual framework fit sufficiently with image-based research practice.

In the end, the successful application of the validity framework rests on the thoroughness and rigour with which the specific elements of the validity framework are described and elaborated on in a particular research context or setting. For example, assiduous documentation is required to make the shifts in researcher role between outsider, insider and participant explicit as a research project progresses, provided this does not distract from more pertinent research tasks or lead to increased reactivity. In this regard, Kvale (1995:34) writes that:



'Rather than let the product, the knowledge claim, speak for itself, a legitimisation mania may further a validity corrosion - the more one validates, the greater the need for further validation. By continually seeking valid proof, the quest for certainty and legitimate foundations may erode the very foundation attempted fortified. The modern preoccupation with verification may in some cases be scratching where it does not itch, with the scratching intensifying the itching as well as provoking itches where there previously were none.'

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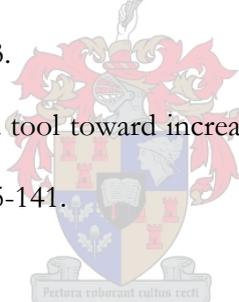
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APPENDIX

Appendix A: Invitation to participate in the Delphi procedure

Dear [Name]

I would like to invite you to participate in a Delphi study on rigour in image-based research that forms part of a DPhil project under the supervision of Prof. Johann Mouton at the Centre for Interdisciplinary Studies of the University of Stellenbosch, South Africa (see <http://www.sun.ac.za/cenis>).

The Delphi procedure is a method for pooling the opinions of members of an expert group and/or interest group. Should you agree to participate, this would involve:

1. Indicating your level of agreement/disagreement with statements that relate to rigour/validity in image-based research by typing your responses in the spaces provided in the attached text document and returning the completed document to rgaede@telkomsa.net as an e-mail attachment before 20 November 2002. This should take about 20 minutes.
2. After the responses of the first round have been processed, you will receive an overview of the (anonymous) responses and comments (where applicable) of all the participants and will have the opportunity to adjust the responses you gave in the first round in the light of the new information received.
3. At the end of the procedure, you will receive a summary of the outcome of the Delphi rounds.

The invitation to participate has initially been sent to authors of journal papers, conference papers, books or chapters in books that deal with image-based research and/or members of the IVSA Listserv, the VISCOM listserv and some members of the International Visual Literacy Association. Please feel free to forward this invitation to anyone you consider an

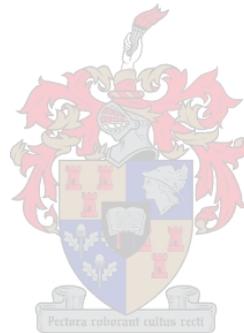
expert in visual methods / image -based research, but preferably send me their details and I will approach them if not approached already as this prevents multiple identical messages reaching the same person. I have provided a space at the end of the attached document where the details of individuals you feel should be approached to participate can be filled in (potential participants without e-mail will be accommodated).

In the event that you choose not to participate, please briefly indicate your reason for not participating in the space provided at the end of the attached document (the last item of the document) and e-mail it to rgaede@telkomsa.net.

Looking forward to your reply.

Rolf J. Gaede

rgaede@telkomsa.net



Appendix B: Questionnaire circulated to identified experts together with the invitation to participate (Round 1)

Instructions:

Please indicate your level of agreement/disagreement with each of the following statements by typing an x in the empty cell next to your choice and typing comments/answers where applicable in the spaces provided.

Note that references were excluded from the statements to reduce bias. At the end of the Delphi procedure, the relevant references will be provided together with a summary of the outcome of the Delphi rounds.

Please e-mail the completed document to rgaede@telkomsa.net before 20 November 2002.

Statement 1

Validity refers to the quality of the fit between observations/facts/data and the conclusions based on such observations/facts/data.

Reply 1

Indicate choice by typing an X in one empty cell only	Option	Comment
	Agree with the statement without comment.	Not applicable
	Agree with the statement with comment.	[Please type comment here]
	Disagree with the statement without comment.	Not applicable
	Disagree with the statement with comment	[Please type comment here]
	Undecided	[Please type reason for indecision here]

Statement 2

Visual methods lead to more valid conclusions when the unit of analysis of the study (or the entity being studied) is visual material than when this is not the case (e.g. individual behaviour, social actions).

Reply 2

Indicate choice by typing an X in one empty cell only	Option	Comment
	Agree with the statement without comment.	Not applicable
	Agree with the statement with comment.	[Please type comment here]
	Disagree with the statement without comment.	Not applicable
	Disagree with the statement with comment	[Please type comment here]
	Undecided	[Please type reason for indecision here]

Statement 3

Validity threats are lowered when the role of the researcher using visual methods shifts from 'outsider' towards 'participant'.

Reply 3

Indicate choice by typing an X in one empty cell only	Option	Comment
	Agree with the statement without comment.	Not applicable
	Agree with the statement with comment.	[Please type comment here]
	Disagree with the statement without comment.	Not applicable
	Disagree with the statement with comment	[Please type comment here]
	Undecided	[Please type reason for indecision here]

Statement 4

Respondent validation techniques, such as interviewing study participants about the experience of being video-taped to establish whether the presence of the camera/recording equipment influenced their behaviour, increase validity.

Reply 4

Indicate choice by typing an X in one empty cell only	Option	Comment
	Agree with the statement without comment.	Not applicable
	Agree with the statement with comment.	[Please type comment here]
	Disagree with the statement without comment.	Not applicable
	Disagree with the statement with comment	[Please type comment here]
	Undecided	[Please type reason for indecision here]

Statement 5

Visual material specifically generated for the purpose of a study leads to more valid conclusions than when existing visual material is used.

Reply 5

Indicate choice by typing an X in one empty cell only	Option	Comment
	Agree with the statement without comment.	Not applicable
	Agree with the statement with comment.	[Please type comment here]
	Disagree with the statement without comment.	Not applicable
	Disagree with the statement with comment	[Please type comment here]
	Undecided	[Please type reason for indecision here]

What is to you the most pressing issue as far as validity in image-based research is concerned?

[please type here]

Brief info about yourself

Number of years involved in image-based research	[please type here]
Combined/total number of journal papers and/or conference papers and/or books and/or chapters in books published in the area of image-based research	[please type here]
Your area of specialisation / special interest within image-based research (e.g. indigenous knowledge, video methods and so on)	[please type here]

Please indicate who you consider most qualified to comment on the above statements (maximum five individuals):



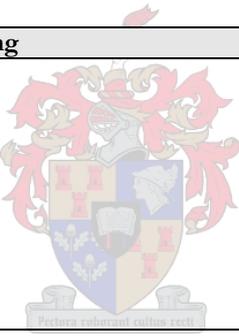
Name	Contact details (e-mail and institutional affiliation)	Notes / reasons if any
[please type here]	[please type here]	[please type here]

Please indicate who you feel should be approached to participate in this Delphi study in addition to the individuals indicated above (no maximum, potential participants without e-mail will be accommodated):

Name	Contact details (e-mail and institutional affiliation)	Notes if any
[please type here]	[please type here]	[please type here]

Thank you for your participation.

In the event that you chose NOT to participate in the Delphi Study, please briefly indicate your reason:

Reason/motivation for not participating
[Please type reason here] 

Appendix C: Correspondence for Round 2 of the Delphi procedure

Dear [Name]

Thank you very much for your participation in Round 1 of the Delphi Study on rigour/validity in image-based research.

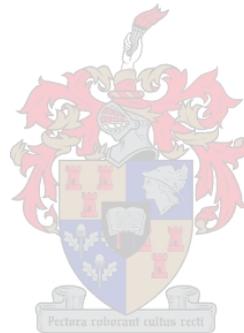
In Round 2, the result of Round 1 is circulated and participants are invited to adjust the responses supplied in Round 1 in the light of the new information received.

In the event that you wish to adjust any of the responses you gave in Round 1, please type the **new response(s) only** in the spaces provided in the attached text document and return the completed document to rgaede@telkomsa.net as an e-mail attachment before 20 January 2003.

Thank you

Rolf Gaede

rgaede@telkomsa.net



Appendix D: Questionnaire used during Round 2 of the Delphi procedure

Instructions:

In the event that you wish to adjust any of the responses you gave in Round 1, **please supply the new response(s) only**. Please type an x in the empty cell next to your choice and type comments/answers where applicable in the spaces provided.

Note that references were excluded from the statements to reduce bias. At the end of the Delphi procedure, the relevant references will be provided together with a summary of the outcome of the Delphi rounds.

Please e-mail the completed document to rgaede@telkomsa.net before 20 January 2003.

Statement 1

Validity refers to the quality of the fit between observations/facts/data and the conclusions based on such observations/facts/data.

Reply 1

Indicate choice by typing an X in one empty cell only	Option	Comment
	Agree with the statement without comment.	Not applicable
	Agree with the statement with comment.	[Please type comment here]
	Disagree with the statement without comment.	Not applicable
	Disagree with the statement with comment	[Please type comment here]
	Undecided	[Please type reason for indecision here]

Statement 2

Visual methods lead to more valid conclusions when the unit of analysis of the study (or the entity being studied) is visual material than when this is not the case (e.g. individual behaviour, social actions).

Reply 2

Indicate choice by typing an X in one empty cell only	Option	Comment
	Agree with the statement without comment.	Not applicable
	Agree with the statement with comment.	[Please type comment here]
	Disagree with the statement without comment.	Not applicable
	Disagree with the statement with comment	[Please type comment here]
	Undecided	[Please type reason for indecision here]

Statement 3

Validity threats are lowered when the role of the researcher using visual methods shifts from 'outsider' towards 'participant'.

Reply 3

Indicate choice by typing an X in one empty cell only	Option	Comment
	Agree with the statement without comment.	Not applicable
	Agree with the statement with comment.	[Please type comment here]
	Disagree with the statement without comment.	Not applicable
	Disagree with the statement with comment	[Please type comment here]
	Undecided	[Please type reason for indecision here]

Statement 4

Respondent validation techniques, such as interviewing study participants about the experience of being video-taped to establish whether the presence of the camera/recording equipment influenced their behaviour, increase validity.

Reply 4

Indicate choice by typing an X in one empty cell only	Option	Comment
	Agree with the statement without comment.	Not applicable
	Agree with the statement with comment.	[Please type comment here]
	Disagree with the statement without comment.	Not applicable
	Disagree with the statement with comment	[Please type comment here]
	Undecided	[Please type reason for indecision here]

Statement 5

Visual material specifically generated for the purpose of a study leads to more valid conclusions than when existing visual material is used.

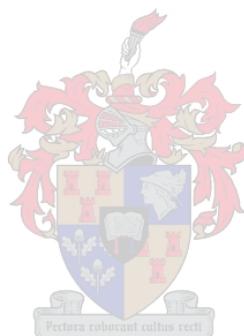
Reply 5

Indicate choice by typing an X in one empty cell only	Option	Comment
	Agree with the statement without comment.	Not applicable
	Agree with the statement with comment.	[Please type comment here]
	Disagree with the statement without comment.	Not applicable
	Disagree with the statement with comment	[Please type comment here]
	Undecided	[Please type reason for indecision here]

What is to you the most pressing issue as far as validity in image-based research is concerned?

[please type here]

Thank you for your participation.



Appendix E: Final correspondence sent to the Delphi panel

Dear [Name]

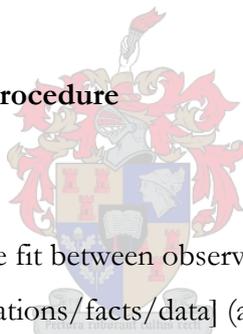
Thank you very much for your participation in the Delphi Study on rigour/validity in image-based research, which has now been finalised. A summary of the outcome is provided below. Note that references, which were initially excluded from the statements to reduce respondent bias, have been included in this final message.

Thank you once again for your valuable input.

Rolf Gaede

rgaede@telkomsa.net

Summarised results of Delphi procedure



Statement 1

[Validity refers to the quality of the fit between observations/facts/data and the conclusions based on such observations/facts/data] (a definition of validity by Kirk and Miller (1986:80) was taken as the point of departure)

% of participants that agreed with the statement: 53.3%

% of participants that disagreed with the statement: 46.6%

% of participants that were undecided: 0.0%

Statement 2

[Visual methods lead to more valid conclusions when the unit of analysis of the study (or the entity being studied) is visual material than when this is not the case (e.g. individual behaviour, social actions).] (see Babbie and Mouton, 2001:84)

% of participants that agreed with the statement: 20.0%

% of participants that disagreed with the statement: 80.0%

% of participants that were undecided: 0.0%

Statement 3

[Validity threats are lowered when the role of the researcher using visual methods shifts from 'outsider' towards 'participant'.] (see Blinn-Pike and Eying, 1993)

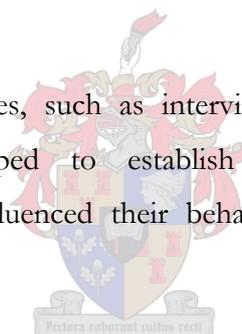
% of participants that agreed with the statement: 33.3%

% of participants that disagreed with the statement: 53.3%

% of participants that were undecided: 13.3%

Statement 4

[Respondent validation techniques, such as interviewing study participants about the experience of being video-taped to establish whether the presence of the camera/recording equipment influenced their behaviour, increase validity.] (based on Lomax and Casey, 1998:4)



% of participants that agreed with the statement: 66.6%

% of participants that disagreed with the statement: 26.6%

% of participants that were undecided: 6.6%

Statement 5

[Visual material specifically generated for the purpose of a study leads to more valid conclusions than when existing visual material is used.] (see Babbie and Mouton, 2001:79)

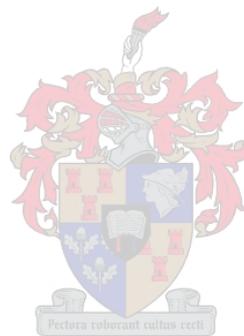
% of participants that agreed with the statement: 13.3%

% of participants that disagreed with the statement: 80.0%

% of participants that were undecided: 6.6%

References

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Appendix F: Unedited list of comments received during the Delphi study

Comments received during Delphi Round 1 (verbatim, in alphabetical order):

What is to you the most pressing issue as far as validity in image-based research is concerned? - Comments received (verbatim, in alphabetical order):

- ◆ An awareness of the multiple purposes of visual material, the diversity of ‘visual research’, and the need to treat visual images as complex rather than transparent
- ◆ As with any other research, that it is ‘transparent’ and that rigorous research ‘protocol’ (for lack of a better term) is followed
- ◆ Ethical concerns. Does the respondent know - really know, the purpose of the study? Who is the audience? How can the intentions of the respondent and the researcher be reconciled? Who sees the visual material and for what purpose? Does the respondent know about all possible audiences? Does the researcher?
- ◆ Having the scholarly world sufficiently well educated to understand and honour that there are multiple realities and that research is as much a philosophical statement as it a rigorous inquiry; that the arrogance that has dominated scholarly work needs to be revisited. Conventional research doesn't have 'subjects' it has 'objects'. Conventionally the scholarly world has decided it must determine what is valid and what is not, rather than educating our colleagues about paradigm differences that speak to how and why different research has different purposes and that one must not be privileged over another
- ◆ Not narrowing research to one or two methods, but broadening research in as many angles as possible
- ◆ Problems of balancing need for naturalistic behaviour against hit or miss sampling this usually involves
- ◆ Representation vs symbolisation/evoking of conceptually framed issues
- ◆ Selection of content for the visual frame
- ◆ Statement #5 above and ways to prove that I am correct in disagreeing with it!
- ◆ The contextual anchorage of the image and the widely divergent representational status of an image (particularistic to more nominal or abstract content)
- ◆ The lack of theory
- ◆ The most pressing issue is the researcher reporting very clearly the assumptions, perceptions, expectations, and personal experiences involved while conducting the

study. Open sharing of this information provides context for the reader to develop some sense of understanding (credibility) for the interpretations or discussion/implications of the work. Not enough of this is done in image-based work

- ◆ The source which the visual material comes from and the researcher's experience in distinguishing between comparatively similar visual sources.

Statement 1 [Validity refers to the quality of the fit between observations/facts/data and the conclusions based on such observations/facts/data]

Statement 1: Agree with the statement:

- ◆ In a more common definition 'validity' refers to how well something measures what sets out to measure
- ◆ That is one type of validity.

Statement 1: Disagree with the statement:

- ◆ A 'fit' for whom would be my concern. Who determines? What if it fits for you and not for me?
- ◆ For me, the process of gathering the data is fundamental to the validity of the study
- ◆ I prefer the term "credibility" to validity in this context. Validity is a quantitative word; if you are looking for a qualitative term (as in the definition), credibility fits more contextually
- ◆ This is not necessary because the relationship between obs/facts/data and concl. is not or doesn't always need to be a linear one
- ◆ Validity has to do with the issue whether the instrument you are using DOES measure what you want to measure. And what conclusions you can or will make, is a different story
- ◆ Validity refers to the extent to which an empirical measure adequately reflects the real meaning of the concept under consideration.

Statement 1: Undecided:

- ◆ None

Statement 2 [Visual methods lead to more valid conclusions when the unit of analysis of the study (or the entity being studied) is visual material than when this is not the case (e.g. individual behaviour, social actions)].

Statement 2: Agree with the statement:

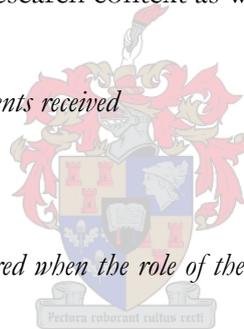
- ◆ I am then at least seeing the same thing as the person gathering the data rather than trusting their interpretive choices
- ◆ Visual material should be used in conjunction with other material to allow for a variety of perspectives on the same entity. The visual material provides a particular perspective of its own and should be used to trigger more in-depth understanding of other perspectives
- ◆ Whilst I don't think this is necessarily the case it seems likely. In the case of non-visual objects of study it seems much more likely that the visual will be one of multiple methods of analysis or sources of data (though of course multiple methods may be a feature of visual studies also). Is it possible to have non-visual methods of studying visual phenomena?

Statement 2: Disagree with the statement:

- ◆ As a blanket statement this does not hold. Apart from that, I don't know what you mean by validity, and this is an important definition
- ◆ I agree in some respects, however, the examples given have physical manifestations that can be recorded and communicated visually
- ◆ I believe visual methods can be incorporated in a wider range of research than implied by the question with equal validity
- ◆ I disagree, "there is virtually no limit to what or whom can be studied, or the units of analysis. The examples given for units of analysis (e.g., individual behaviour and social actions) may be governed or impacted by visual information. For example, if the experiment is to observe the individual behaviour of the subject who is responding to a visual stimulus on a computer screen then I believe the methods may be valid, depending on the intent of the study. In this case the unit of analysis could be number of mouse clicks (an action), not visual material in and of itself but it is most likely based on visual material. Also, if one is trying to determine the

impact of a visual stimulus in an experimental situation, it may be necessary to remove the stimulus in a control situation

- ◆ Might be better when you can combine visual methods with a sophisticated use of other kinds of ethnographic research
- ◆ No. Visual methods add credibility (not necessarily validity) to analysis by projecting complexity and invoking personal interpretation. Bringing these issues to the forefront and disclosing them in the context of the work honours complexity inherent in any attempt to know or understand culture, social conditions, or realistically any process involving life and living.
- ◆ There is no reason why the unit of analysis should be 'pre-mediated' material, making your own visual records of visual phenomena may in a number of cases be better. Starting from pre-existing visual materials versus producing visual materials from phenomena in a research context each has its pros and cons
- ◆ This would depend on the research context as well as the research question.
- ◆ *Statement 2: Undecided: Comments received*
- ◆ None



Statement 3 [Validity threats are lowered when the role of the researcher using visual methods shifts from 'outsider' towards 'participant'.]

Statement 3: Agree with the statement:

- ◆ The ability of the "participant" to understand and capture relevant material is essential, however, a mindful, perceptive "outsider" can add new mental models to the observation and open new frames for understanding. So, participant observation should be combined with some degree of "outsiderness"
- ◆ There are benefits and risks of outside/participant roles. In general I believe some degree of participation deepens the research data and thus the validity.

Statement 3: Disagree with the statement:

- ◆ I am tempted to say: it's the opposite.
- ◆ No. Credibility threats are only lowered when the researcher provides a vivid description of how (s)he approached the work; reports personal assumptions going

into the field; and, discusses changing roles, thoughts, assumptions and overall interpretations based on the data set

- ◆ This depends on the type of research, but in any case validity threats are dramatically lowered by thorough knowledge of the field
- ◆ Validity threats are present no matter what type of experiment the researcher performs
- ◆ When being a participant you cannot really distance yourself from the object of your research and you might not be able to objectively conceptualise your research topic
- ◆ Whilst it seems that this is likely to be true in many cases, for example in visual ethnographies, I think it is dependent on the kind of study being conducted and the research question (in historical studies the question may simply be irrelevant)
- ◆ Would assume they are greater, if I understand this
- ◆ You can engage without “participating”.

Statement 3: Undecided:

- ◆ A strong case can be made for keeping strictly to the role of either ‘participant’ or ‘observer’, or to any partial roles in between. I think it depends upon what is being studied, though I would tend to agree with the statement more often than not
- ◆ I have been struggling with this question for a while. In my research, I have become a participant, and sometimes feel as if it skews my judgement as an impartial observer. Yet on the other hand, I feel as if I could never understand what my subjects are relating to me, if I myself don’t become a participant
- ◆ I tend to agree but am concerned that this is difficult to discern without knowledge of a specific research question.

Statement 4 [Respondent validation techniques, such as interviewing study participants about the experience of being video-taped to establish whether the presence of the camera/recording equipment influenced their behaviour, increase validity].

Statement 4: Agree with the statement:

- ◆ A recording of what the participants experience while being interviewed provides a visual record of interactions with the study participants. Video-taping the experiment

itself may indicate sources of internal invalidity (e.g., causal time order (which occurs rarely), diffusion or imitation of treatments, demoralization)

- ◆ Given the definition of validity at the outset, validity could be increased in two ways: 1) by getting 'better' data; or 2) modifying the conclusions. Respondent validation techniques are likely to sensitise researchers to the validity problems with visual methods, and hence lead to more qualified conclusions (which by the above definition are more valid). However perhaps more important here is the issue of such techniques not as a check, but as a data collection methods in their own right, for example causing participants to analyse and reflect on knowledge, behaviour, etc. that has been captured visually (this seems to me the essence of photo-elicitation, and involves people as participants in the research as well as 'subjects')
- ◆ However, this really depends on the students' level of experience with these methods
- ◆ I marginally agree. This is one aspect of triangulation (or multiple data source analysis) that should be used to provide credibility estimates to the interpretation. Of course, depending on the foundation of the study; respondent validation may be inconclusive, or even detrimental to the study (e.g., when researching public space discourse without public awareness of the study)
- ◆ In addition respondent feedback can shed light on the content of the image and "thicken" the description thereof
- ◆ In fact it does not necessarily increase validity (because this depends on how we feed this information back to our research) but it does improve our knowledge of the degree of validity of our research
- ◆ It depends on the researcher's skill to conduct the interview without creating biases on the respondent's part.
- ◆ *Statement 4: Disagree with the statement:*
- ◆ I do not want to depend on their experience of being videoed to determine if I have a valid answer to my research question. Just being researched influences things so just know the risks and limits of each style. I think this point would increase hassles re ethical clearance and participation. People may be willing to participate but would feel imposed on if they also have to submit to an interview which could be invasive and require them to be reflective on what was supposed to be natural and for ethics they would have to know prior to the research.

Statement 4: Undecided:

- ◆ If done well, it might provide some evidence, but debatable.

Statement 5 [Visual material specifically generated for the purpose of a study leads to more valid conclusions than when existing visual material is used.]

Statement 5: Agree with the statement:

- ◆ Both may be beneficial but both (as with any type of data) have potential researcher bias or group ideological biases depending upon the type of material used. In general, visual material generated specifically for a study can hone in on particularly salient elements for that research agenda
- ◆ Certainly, especially if the respondents are no longer available for validity checking.

Statement 5: Disagree with the statement:

- ◆ Again I think this depends on the particular study. Researchers using existing visual material need to be sensitive to the purposes for which the visual record has been produced, and hence the potential impact of this on findings (e.g. social historians shouldn't simply take photographs of as evidence of how things were, without recognising the interests such image-making served and hence what may be excluded from the visual record). However, in many cases the purposes for which visual records are made form part of the study (i.e. an understanding of what it was felt important to record visually may be instructive about social and cultural values)
- ◆ Again: apparently you are using a different concept of validity. Apart from that: as a blanket statement, no
- ◆ Depends on aims of study
- ◆ Depends on the research question
- ◆ I believe it is important to evaluate existing material and visual material generated for the project in similar light, taking into consideration the purpose for the creation of the pieces in evaluation
- ◆ It depends. Some lived experiences cannot be re-enacted (or recreated) without biasing the work (e.g., landing on the moon—if this really occurred!) in a very sinister way

- ◆ Nonsense, it all depends
- ◆ Often but not always, sometimes existing visual materials may offer an inside view that the researcher may never obtain. The research question and the total population are key here
- ◆ This is not necessarily true, because the specifically generated visual material may be so specialized that the research does not apply to real world situations
- ◆ This would depend on the pre-existing material itself and its relevance to the study in question.

Statement 5: Undecided:

- ◆ Not sure, bias can play a role when developing visual material?

Note: Comments received during Round 2 are supplied *verbatim* in Chapter 7.

