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Theory in Design Research: A supervisor reflection on research design

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Abstract

This paper is a supervisor reflection on theory selection for research design in design-orientated research. Selection and deployment of theory in a research design can powerfully affect what design research achieves. The research design of a graphic design master's dissertation targeting 'research for design' illustrates this. The view of research design discussed in the paper is not typological or logistical, but instead one where relations between research components are interactive and emergent during the course of the study.

The challenge of the 'research for design' study concerns the graphic design need to track visual rhetoric effects on audience identity in social media. This study used fashion theory to bring visuality to Giddens's social reflexivity and Butler's social performativity. The resulting theoretical integration was then applied to the functional affordances of the social media platform under study.

The paper concludes that the exemplar study illustrates the key role of theory in optimally valid research design co-ordination of research aims, questions, significance and methodological implementation. This conclusion is then briefly extended to the potential for similarly innovative and coherent practice-based research designs in the design field.

Keywords: Design research, theory, interactive research design

Introduction: Supervising postgraduate research in design

In this paper, the research design of a graphic design master's dissertation serves to illustrate the use of theory in a dissertation research design. As a supervisor, I reflect on theory as the galvanising interactive component of the illustrative research design. I conclude that theory enables a praxis conception of research design, and speculate briefly on the role of theory in design practice-based research designs.

I am often confronted with postgraduate scholars' feelings of timidity and inadequacy in the face of their (mostly qualitative) postgraduate research undertakings. This is a matter of great concern for me since the qualitative researcher is held to be the chief instrument of a

qualitative study (Henwood 1996). For the researcher to orchestrate research design elements in a qualitative study has long been a qualitative research tradition. A nascent post-qualitative movement now, however, challenges qualitative research traditions (see for example St Pierre 2011). Theory is prioritised in most post-qualitative viewpoints. My aim is rather to show how theory can engage with empirical material, in unexpected ways.

Resistance to theory is thought to be a ubiquitous feature of postgraduate supervision (Adams & Buetow 2014). This is not helped by typical 'research methodology' courses, which prioritise a slew of impenetrable terms that do little to enhance scholars' confidence in *doing* their research. The variety of interpretations of terms like 'paradigm', 'research orientation', 'research approach', 'research methodology' and 'theoretical framework' in qualitative research literature only makes matters worse. With the proviso that there are other ways of understanding these terms, and that one must always provide the source for a particular interpretation, I attempt to draw distinctions between the research terms used in this paper.

Theory, theoretical and conceptual frameworks, and research design

A theory is "any explanation offered for why/how something exists or works" (Pratt 2016a, p 1). Theoretical frameworks, to borrow some of Pratt's terms, are explanations offered for why/how conditions, situations and events exist or work. These theoretical frameworks may be on the level of the grand theories of, for example, Newton, Einstein, Freud, Piaget, Hume, Kant, Wittgenstein, Marx, Durkheim, and Weber. Though these theories endure, they are not readily applied to the *local* problems of qualitative research. There are though middle-range or 'translational' (Adams & Buetow 2014, p. 99) theories with widely applicable tenets, which have been derived from grand theories. These theories embrace broad concepts like activity theory, gender theory and symbolic interactionism. Middle range theories then have wide applicability.

The purpose of this brief pass over theoretical frameworks is, however, just to show what sort of role they may play in master's or doctoral research. Theoretical frameworks do not signal or oblige allegiance to research paradigms, as Pratt (2016a, p. 1) points out.

Trying to define the term 'theoretical framework' can diminish its meaning, and anyway, this meaning is differently described across authoritative sources. One can at least say though, that the grand and midrange theories referred to above are not limited to any field, but all qualify as theoretical frameworks (Anfara & Mertz 2014).

Theoretical frameworks have been differentiated from conceptual frameworks. Usually, a theoretical framework is *selected* by the researcher at the start of the research project. Conceptual frameworks are *constructed* by the researcher over the course of a study and are thought to be a 'less developed' form of fully-fledged theoretical frameworks (Grant & Osanloo 2014).

The difference between theoretical frameworks and conceptual frameworks might then appear to be *when* and *how* they influence a research design. This differentiation cannot, however, be sustained. Grant and Osanloo (2014) admit that theoretical frameworks may only fully emerge in the data analysis phase of a study. This makes for an unwieldy distinction between theoretical and conceptual frameworks. In this paper, the focus is on research design emergence through interaction of research elements, including theoretical/conceptual elements. Possible distinctions between theoretical/conceptual frameworks are not central to the present paper, however, so will not be discussed.

'Research design' can be minimally defined as the strategic integration of all study components (including methodology, and theory) that both drives and sustains the thesis argument (De Vaus 2006). Maxwell (2013, p. 12) cites Hammersley and Atkinson (1995, p. 24) state that

"research design should be a reflexive process operating through every stage of a project". This echoes Maykut and Morehouse's (1994, p. 123) counsel that "an open-minded approach to relationships between theory and data and the concomitant action on the part of the researcher allows the research design to emerge over time".

However, these views do oppose the typological understanding of research design, for instance empirical, non-empirical, textual or non-textual types of research (Babbie et al. 2003).

They also oppose the logistical approach to research design, because, usually, the planning of sequential steps recommended in respect of a particular typological design (Grant & Osanloo 2014). I have seen logistical research design steps presented under the banner of 'research methodology' in university course guides, as a reassuring 'one way' practical guide to success in postgraduate studies.

That a research design is *guided* by a research orientation, research goals and questions, theory, data collection and analysis methods (Robinson 1998) is a better but still an *a priori* proposition. It is for these reasons that this paper adopts Maxwell's (2013) view of optimal research design as interactive and emergent over the course of the study. This is illustrated in Figure 1.
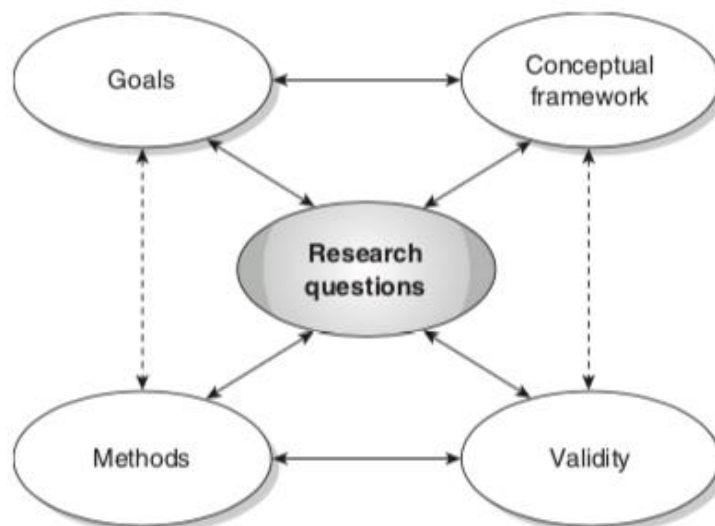

Figure 1: Maxwell's Interactive research design framework (Maxwell 2013, p. 15)

The economy of Maxwell's (2013, pp. 13–14) research design schema is possible because he assigns broad and flexible meanings to each component. A shortened explanation of Maxwell's research design elements in Figure 1 is provided, as follows:

Goals embrace the study issues and aim, as well as their significance. Goals are tightly linked to research questions and the conceptual framework and may also influence methods or be influenced by methodological constraints.

Conceptual frameworks ask about what the researcher thinks is 'going on' in the research context, and what that context is. Maxwell (2013, p. 13) recommends that the researcher simply asks what theories, research and attitudes are linked to what is going on, and what further theories/studies/personal experiences could help to understand what is going on. Again, these issues increasingly interact with research questions.

Research questions are the malleable nexus of what in particular needs to be found out, what is already known in connection to the inquiry, and what is not known.

Methods ask what the researcher intends to do about answering questions. What methods and techniques of data generation and analysis will best align with research questions and goals?

Validity asks questions about in the interaction of the above research design components, as they might vouchsafe or deny the credibility of the study, with attention to potential alternatives in the case of each component.

It is perhaps necessary at this point to distinguish between research methodology and research design. Research methodology refers to the philosophical logic behind the use of particular methods (Roberts 2014, p. 2). Research design is the frame of reference for the development of the study methodology (Babbie et al. 2003, p. 74).

The research terminology melee has recently been much complicated by vehement debate about the relative importance of theory and data in a research design. As Alvesson and Kärreman (2013, p. 2) have said:

> [That] both inductivist and deductivist approaches share a belief in a clear separation of theory and data and a deep-seated trust in the capacity of data to inform and correct theory building. They also share a strong belief in premeditated process.

What theory might bring to research data is the chief concern here. The master's dissertation examined in the next section is offered as a case in point.

A 'research for design' study: theory and research design

The idea of distinct purposes for art and design research was first raised by Frayling (1993). These were 'research for art and design', 'research into art and design', and 'research through art and design'. There has been some debate about what these distinctions mean, with a tendency to favour Findeli's 2004 analysis (written in French and cited by Goldin & Zahedi 2014, pp. 2–3). The differences are roughly that 'research for design' is research that informs design practice; 'research into design' studies examine designed artefacts and their history, and research through design' reflects on the design production process of a designer or designers. The present illustrative study of theory in research design uses a 'research *for* design' example.

Goals

The challenge of the 'research for design' study concerned the graphic design need to understand the social identities of those who view the visual messages that graphic designers create. To understand their audience, graphic designers must monitor changing values and shifting social milieux, discerning and 'speaking to' the transforming and proliferating social identities of those whom they address.

Arguably, social media websites are a pre-eminent arena for monitoring changing social identities (Lane et al. 2005). This study focuses on divergent or diversifying masculinities as a currently salient area of social identity change. The diversification of masculinities is seen as a matter of the visual rhetoric content about masculinity in image posts depicting men. The chosen social media website is Tumblr, because of the prolific but anonymous posting of images on this site. The goal of the study was to show how masculinities as aspects of social identity may come to diverge through visual rhetoric transactions on the Tumblr social media platform.

Conceptual framework

The beginning conceptual point of reference for the study was visual rhetoric. Seminal texts on visual rhetoric provided a starting point but did not address the rapid exchange of images on Tumblr in which the 'rhetor' role constantly switched from post originators to post responses. Carnegie's (2009) theory on interactive rhetorical functions in new media was then integrated with the seminal visual rhetoric texts in the dissertation literature review. This laid the foundation for a theory of digital visual rhetoric.

Gender theory informed the masculinity focus and more importantly provided the broad concept of performativity (Butler 2011) as encompassing the 'rhetor' generation of visual rhetoric on Tumblr, through image posts. Giddens's (2013) conception of social reflexivity similarly embraced user post responses to performed visual rhetoric. Tumblr users constantly switched between initiating (performative) or responsive (reflexive) image posts.

Here, theory served a methodological purpose by showing that performative and reflexive image posts could be verified en masse, or in a small set of linked posts.

The final stage of the creation of the conceptual apparatus was the inclusion of fashion theory. There is a large and venerable body of theory connecting fashion with social identity. Fashion theory has drawn upon sociological, anthropological, economic communication theory over the twentieth century. Fashion theory embraces all of the preceding concepts, namely social identity visual rhetoric, gender, performativity, and reflexivity. Arguing for fashion as the visual surface of these concepts in Tumblr image posts was then possible, especially in the light of broader interpretations of fashion. The master's scholar drew upon Pan et al.'s (2015, p. 53) conception of fashion:

> Fashion refers to the symbolic, aesthetic, and cultural meanings that artefacts carry, especially the ways in which people use objects to express their taste, lifestyle, social status and belonging to a community.

The embodiment of this conception of fashion is illustrated by the Tumblr post in Figure 2.

Figure 2: Fashion as taste, lifestyle, and belonging to a community (Nair 2018, p. 25)

Together, the theoretical elements described above shaped the conceptual framework shown in Figure 3.
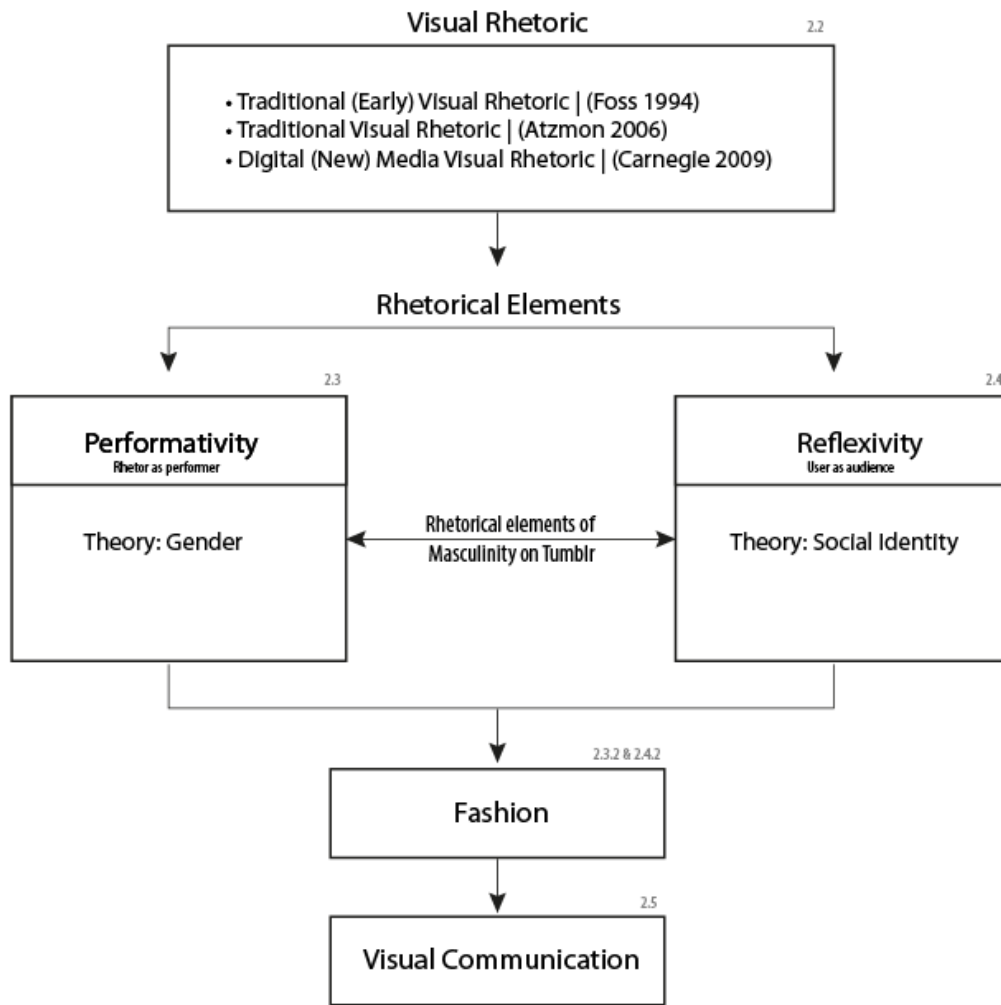

Figure 3: Theoretical shaping of the conceptual framework (Nair 2018, p 12)

Methods

The constantly unfolding visual events and the proliferation of actors in the Tumblr theatre, made a traditional 'methodology' chapter seem highly inappropriate. This is first because Tumblr shows user-generated content, such as posts, comments, re-blogs, hashtags and re-posting of images. In this way, the extent of user interactions with an image can be discerned. Such user interactions with an image can also be tracked from the initial image post through a series of further user interactions, arriving perhaps on a user Tumblr wall where images are combined.

In this way, the Tumblr user interface suggested a strategy for tracking posts that concerned masculinity. The Tumblr research setting itself then shaped the 'methodology' of data generation and analysis.

Tracking Tumblr user activity concerning masculinity content required needed an initial piloting process. The piloting process was called 'analytical sampling' because it used the conceptual framework to analyse user activity for image sampling purposes. This strategy required an initial conceptualisation, a trial run and then refinement before it could be implemented. The piloting process is shown below in diagrammatic form in Figure 4.
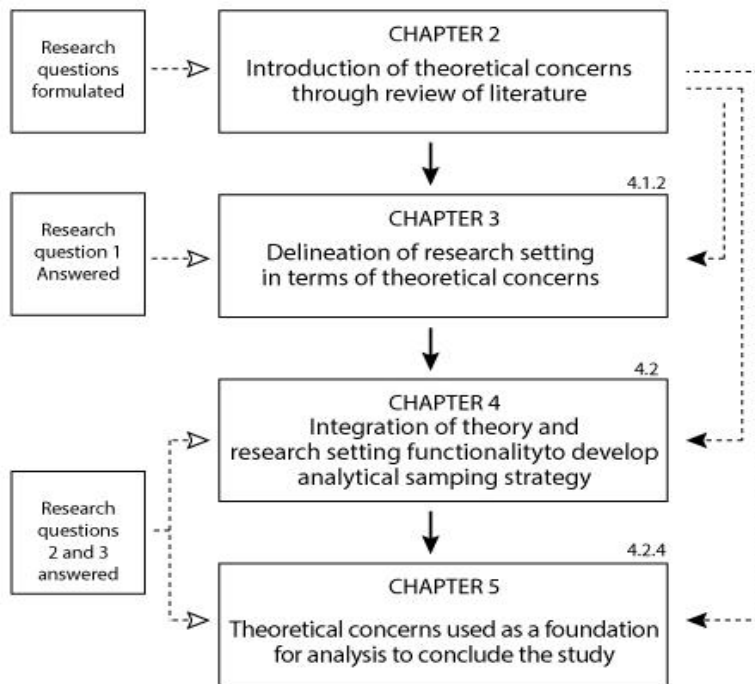
**Figure 4: Initial piloting of the conceptual framework for analytical sampling on Tumblr
(Nair 2018, p. 51)**

The refinement of the piloted analytical sampling strategy achieved a reciprocal leveraging of theory and data. The finalised 'analytical sampling strategy' consisted of two layers: firstly, a framework for standardising the researcher's interaction with Tumblr, and secondly theoretical protocols for an analytic sampling of what was encountered in the researcher's interaction with Tumblr. This is shown in Figure 5.

Framework
Images could come from anywhere on Tumblr, both through Tumblr's search functionality (researcher actively searching for images as an average user would), as well as via images suggested to me by Tumblr itself on the Tumblr Dashboard (researcher functioning as a passive audience to Tumblr's suggested content)
As user-researcher, I would allow myself to move multi-directionally (Carnegie 2009) through Tumblr as an average user would (from image link to image link), images to be considered for sampling should have accrued over 1000 notes
Each sampling session would last for 1 hour
Each search session would occur once a day at the same time each day (18h00)
Search sessions would be carried out for 60 days (between July and September 2016)
No limit would be placed on the number of images collected within a session
The date of upload of the image would not be a sampling factor
New search sessions could follow hashtags discovered in previous sessions as starting points
Images should be placed within a context (through montage, on a Tumblr wall) of fashion imagery if not overtly relating to fashion or masculinity in isolation

Images saved would be moved to a Tumblr wall, as a means of recording both the image, as well as the attached shifting meta-data

Protocols		
Theoretical considerations		Structural considerations
Search inputs should relate to male fashion	→	Any search inputs must be auto-completed by Tumblr
All Tumblr walls and hashtags explored should relate to male fashion	→	Only automatically suggested content can be explored from Tumblr's search functionality
Images should relate to the performance of masculinity through fashion	→	Images must have fashion-centric hashtags
All images considered for sampling should be potent indicators of the evolution of ideas from relatively arbitrary challenges to normative social identity constructions to a shared shift in thinking	→	Images must have accrued a minimum of 1000 notes signifying that the image has been interacted with by 1000 anonymous users on the network, who have either liked the image or have reblogged the image on Tumblr

Figure 5: The analytical sampling process (Nair 2018, pp. 60–61)

Figure 6 gives an example of what, through the analytical sampling strategy, could be considered 'data' or empirical evidence in this study. This example shows the kind of combinatory montage that may constitute a Tumblr user's predilections, reflected on their Tumblr user wall.
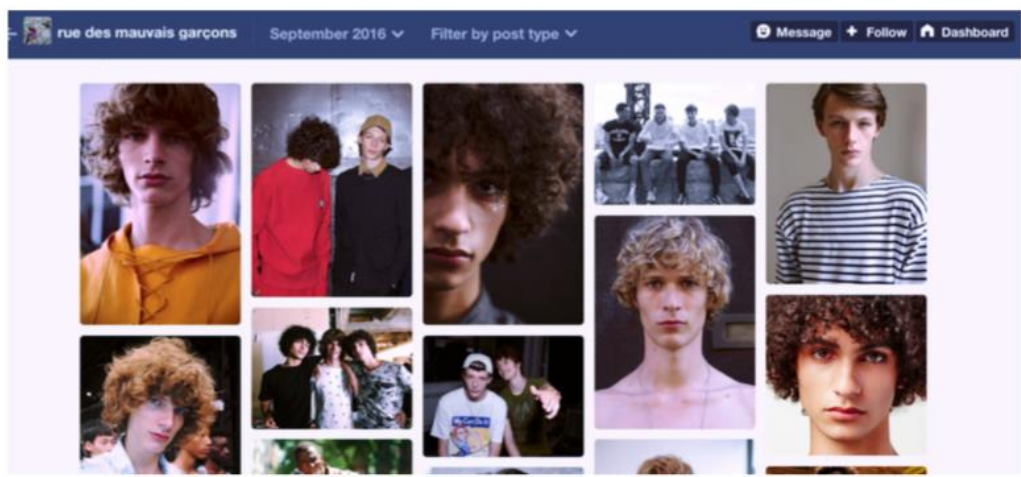

Figure 6: Combinatory montage of images on a user wall (Nair, 2018, p. 67)

Research questions

Research questions are only now addressed in this paper because much of what is narrated above preceded their precise formulation. The scholar's research questions were initially shaped by theory in the literature review and addressed and amended over the course of the

study. Following a detailed explanation of the research questions, Figure 7 gives a diagrammatic representation of how these questions were tackled over chapters.

1. How is masculine identity expressed and understood through visual rhetoric on Tumblr? Chapter 3 contributes to answering this question by delineating the masculinity visual rhetoric research setting within Tumblr's overall environment, examining the ways in which Tumblr users perform and reflexively respond to visual masculinity rhetoric.

2. How do masculinities as aspects of social identity diverge through visual rhetoric on Tumblr? By developing and implementing an analytical sampling strategy, Chapters 4 and 5 address this second research question.

3. What is the broader significance, for visual communication design, of visual rhetoric on Tumblr that evidences divergent masculinities? This question concerns the importance of the study to the visual- communication design industry and is addressed in the concluding section of Chapter 5 by drawing upon insights gained throughout the study.
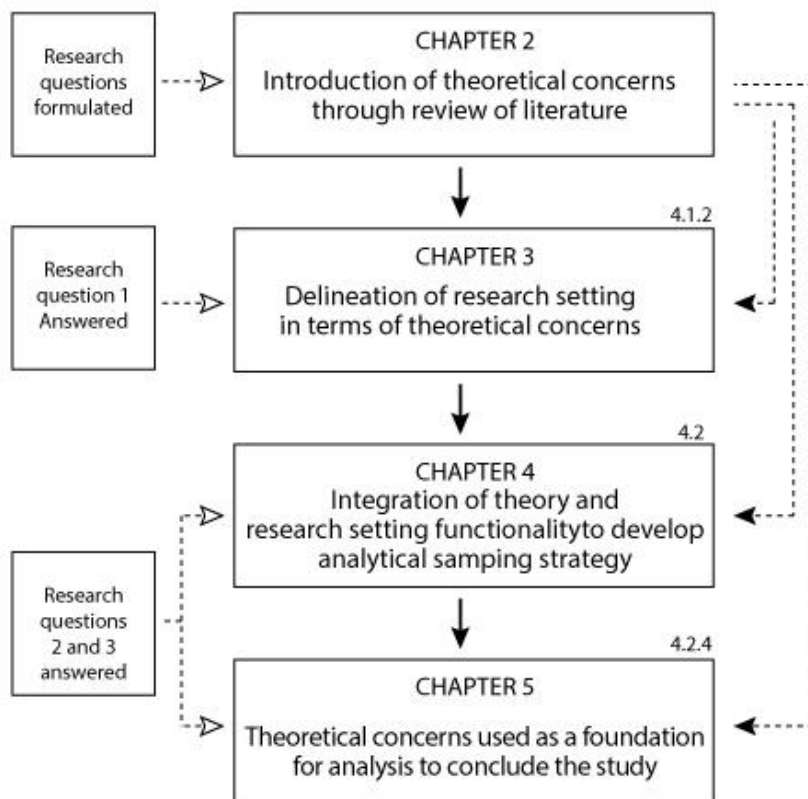

Figure 7: Evolving research questions and answers (Nair 2018, p. 51)

Validity

There are many different ways of construing validity. In this study, we took the view that validity "applies to entire research process and refers to ways of legitimising knowledge that rest on *the quality of fit* [my emphasis] between observations, facts or data and conclusions based these" (Gaede 2004, p. 13). Echoing this summation, Maxwell (2013, p. 121) emphasises the relative nature of validity, as "assessed in relationship to the purposes and circumstances of the research, and not a context-independent property of methods or conclusions".

These validity tenets very much concern the research design interactions. The issue of validity was chiefly addressed in this master's dissertation through diagrammatic depictions of research design relationships. Figure 8 shows, for instance, how data was generated, and it is one of the figures in the thesis that evidences research design moves.
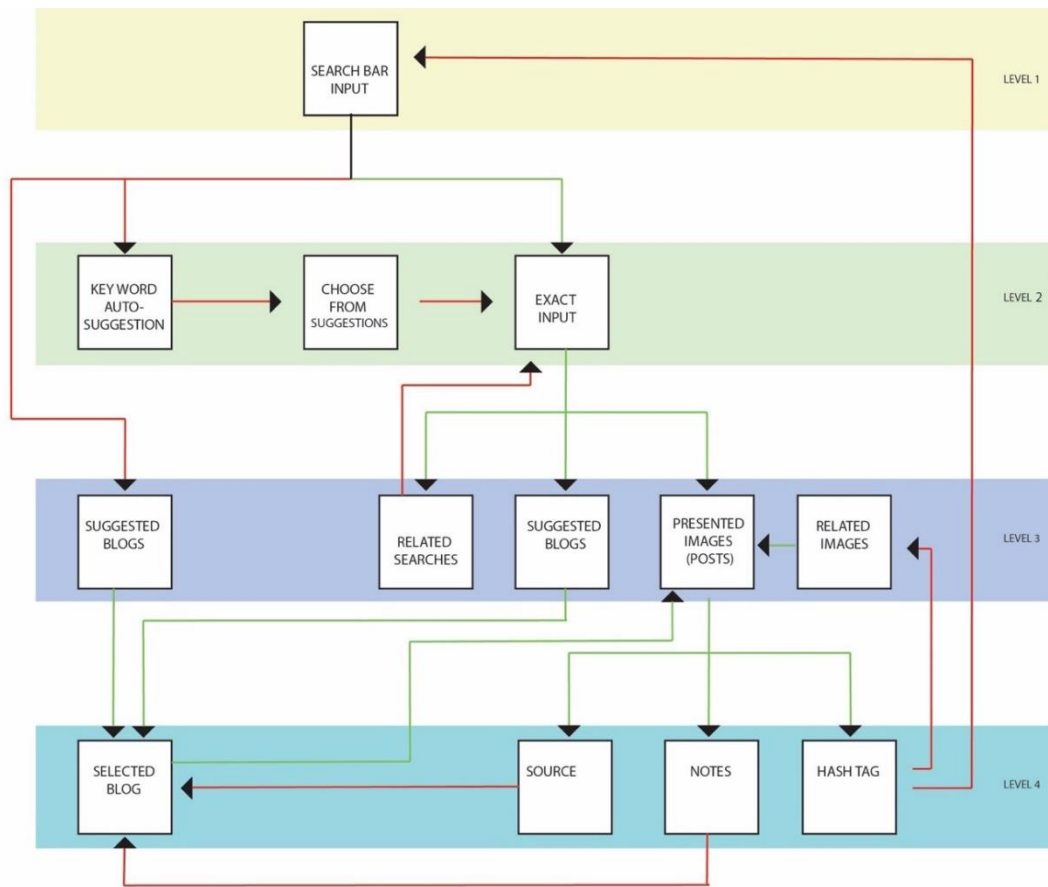

Figure 8: The researcher's analytic sampling map (Nair 2018, p. 93)

The research design of this study then emerged through theory and data interactions, in which theory was the driving element. As a result, five diverging masculinities were illustrated, as exemplars of an ongoing process of masculinity diversification.

Further, though, it became evident that other forms of changing identity could be discerned using the research design of this study. As the master's scholar, Nair (2018, p. iii), noted in the study abstract:

> It is suggested that the research design and methodology of the study can be used to investigate other forms of changing social identity besides masculinity. This is important for visual communication designers, who need to monitor changing social identity mores and their visual expression on social media.

Reflections on theory and data in research design

There has been a criticism of what are called 'dataistic' approaches (Alvesson & Kärreman 2013, p. 5) where the data 'collected' by the researcher is expected to fit the theoretical or conceptual framework. In the first place, data are not 'collected' as if they were scattered about the research setting, ready for plucking. Nor is the research setting (in which data are

'collected') necessarily commensurate with the real-world problem or issue the researcher wants to investigate, as Pratt (2016b, p. 1) explains:

> The research problem addresses what researchers perceive is wrong, missing, or puzzling, or what requires changing, in the world (Sandelowski 2008, p. 784). Indeed, it does so address such issues, and, as Sandelowski (2008) continues, "leads directly to the research purpose(s) and research question(s)" (i.e. after a review of how this problem has been conceptualised and studied by other researchers, in the literature review). But, the research problem addresses the real-world problem: it is not the same as it.

This is the case even if we are indeed in the very place where the research phenomenon occurs: the naturalistic context that is a hallmark of qualitative research (Henwood 1996) where the research problem occurs. Rather data are a *generated* montage of worldview, theoretical focus and research questions, and the choice of data sources (St Pierre 2013). This is before data comes to be analysed, a matter on which Stelmach makes some cautionary comments. There are three kinds of data, namely 'direct or descriptive data', 'semi-direct data' and 'indirect data' (Morse 2006, cited in Stelmach 2016, p. 25). 'Direct data' describes a phenomenon, but description requires at least some implicit theory of what it is that is being described (Strauss 2010). Description is then not possible without some level of theory about what is being described (Strauss 2010). Agar's (cited in Maxwell 2013, p. 59) statement that "You can't pick up rocks in a field without a theory" puts this in stark terms. A 'picking up rocks' theory is a foregone conclusion in surveys and also what is regarded as 'base data' or demographic information. More abstracted semi-direct data' are grounded in fallible researcher interpretations of 'raw' data. Highly abstracted 'Indirect data' are inferences drawn from non-verbal cues or symbolic indications, on the basis of their repeated occurrence in the data, rather than the verification of any instance.

Conclusion: Theory in research design

In the Tumblr study examined in this paper, theory and data are juxtaposed. This is consistent with Jackson and Mazzei's (2013) 'plugging' theory into data and data into theory. Most importantly, though, theory allows a tailor-made methodological approach that is interpretive, but still substantive. The theoretical pluralism (Kelle 2005) of the study also provides heuristic theoretical concepts for deciding what might constitute data.

The study research goal of identifying diversifying masculinities through visual rhetoric was reached and also opened up further possibilities for tracking social identity on social media. This does seem to be because of the *utility* of the theoretical components. Visual rhetoric analysis is a quintessentially interpretive endeavour, yet visual performativity and reflexivity could be substantively 'enmeshed' with social media metadata and functionality. From this perspective, the research design of this study might be considered to be 'praxis'. While 'praxis' usually refers to theory and practice relationships, an effective research design achieves more: praxis is the engineering of theory and data relationships over the entire research design.

Theory in this unusual master's research design also importantly resists the re-territorialising (Perold-Bull & Costandius 2019) of a research inquiry, that might make issues more tractable but tends to imbue the inquiry with highly inferential features. Admittedly, the particular theories put to work in this master's study do steer the research design, but not in a pre-emptive way. A conceptual framework of theories is first forged on the basis of access to the phenomenon of diversifying masculinities which is under study. Second, this conceptual framework is subjected to emerging data and accordingly made malleable. The result is an application of theory that interlocks with data. Because this is done in a critical and reflexive

way, the research may be regarded as making a valuable contribution (Alvesson & Kärreman 2013, p. 45).

With regard to praxis, 'research for design', and 'research into design' can rely on the kind of research design interactions described in this paper. However, 'research *through* design' (involving a practice component) poses different and contentious challenges (Godin & Zahedi 2014, pp. 2–3). Artefacts always carry knowledge, with which they are imbued by our activities and practices. But, practice-based research artefacts are not (yet) part of the social world of participative activities and practices. So, research artefacts must be contextualised by the researcher, in a critical and reflexive way. The 'making' function of research through design is one where the designer-researcher must "evaluate from *within* the activity that which evolves *through* the activity: the realisation of intention in concrete form" (Prentice 1995, p. 12). This means that the practicum is may be 'disclosive' (McLaughlin 2006) of its own theory, and therefore practice-based research designs may be more interactive and emergent than research designs of the 'theory in' (MacKellar 2010) variety.

In practice-based research, 'praxis' is misconstrued as the complementary relationship between the practical 'making' element and theory. While research design interactions within and between theory and practice-based elements are what count for credibility, they are not limited to theory and practice. A research design is made up of calculated and strategic changes read off research component interactions, for the intensely praxeological function of argument. Of these research design components though, theory is the component most crucial to research design as praxis.

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