Thematic networks: an analytic tool for qualitative research

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ABSTRACT The growth in qualitative research is a well-noted and welcomed fact within the social sciences; however, there is a regrettable lack of tools available for the analysis of qualitative material. There is a need for greater disclosure in qualitative analysis, and for more sophisticated tools to facilitate such analyses. This article details a technique for conducting thematic analysis of qualitative material, presenting a step-by-step guide of the analytic process, with the aid of an empirical example. The analytic method presented employs established, well-known techniques; the article proposes that thematic analyses can be usefully aided by and presented as thematic networks. Thematic networks are web-like illustrations that summarize the main themes constituting a piece of text. The thematic networks technique is a robust and highly sensitive tool for the systematization and presentation of qualitative analyses.

KEYWORDS: *method, qualitative analysis, text interpretation, textual data*

The need for tools in qualitative analysis

Qualitative methods have enjoyed a growing popularity in the past decade throughout the social sciences (Bryman and Burgess, 1994; Denzin, 1994; Jensen, 1991; Marshall and Rossman, 1999; Morse, 1994). No longer relegated to the marginalia of exploratory stages, or derided as anecdotal, qualitative methods have been gaining recognition in domains traditionally inclined to more positivistic methods (Barnes et al., 1999; Black, 1996; Ritchie and Spencer, 1994). Indeed, literature espousing, promoting and employing this method of research is rapidly increasing – a move that is being welcomed as a positive step towards a deeper understanding of social phenomena and their dynamics.

However, while the issues of when, why and how to employ qualitative

methods are receiving ample attention, there is relatively little said on how to analyse the textual material that qualitative researchers are presented with at the end of the data gathering stage (Bryman and Burgess, 1994; Feldman, 1995; Silverman, 1993). This is a problem for any researcher adopting such methods, and particularly for social science researchers who, after being encouraged to adopt this method for innumerable theoretical and epistemological reasons, are then left stranded when it comes to analysis.

If qualitative research is to yield meaningful and useful results, it is imperative that the material under scrutiny is analysed in a methodical manner, but unfortunately there is a regrettable lack of tools available to facilitate this task. Indeed, researchers have traditionally tended to omit the 'how' question from accounts of their analyses (Lee and Fielding, 1996), which is lamentable as reporting the techniques they employed could serve to enhance the value of their interpretations, as well as aid other researchers wishing to carry out similar projects (e.g. Diversi, 1998; Pandit, 1996). Nevertheless, the recent growth in literature dedicated to the specific issues of qualitative analysis is, indeed, encouraging (e.g. Bryman and Burgess, 1994; Cresswell, 1997; Denzin and Lincoln, 1998; Feldman, 1995; Miles and Huberman, 1994; Silverman, 1993), but there is still a need for more sophisticated tools to facilitate such analyses (Huberman and Miles, 1994). There is also a need for greater disclosure in qualitative analysis, and as this research tradition gains prevalence, we must ensure that it does so as a learned and robust methodology. This can only be achieved by recording, systematizing and disclosing our methods of analysis, so that existing techniques may be shared and improved, and new and better tools may be developed.

This article is an attempt to address this gap. It details a method for conducting thematic analyses of textual data, employing established, well-known techniques in qualitative analysis. The article proposes that thematic analyses can be usefully aided by and presented as *thematic networks*: web-like illustrations (*networks*) that summarize the main *themes* constituting a piece of text. This article details, in a step-by-step fashion, the process of conducting a thematic analysis with the aid of thematic networks, and provides an empirical example of the application of the method. The technique provides practical and effective procedures for conducting an analysis; it enables a methodical systematization of textual data, facilitates the disclosure of each step in the analytic process, aids the organization of an analysis and its presentation, and allows a sensitive, insightful and rich exploration of a text's overt structures and underlying patterns.

Foundations of thematic networks

Thematic networks, as an analytic tool, draw on core features that are common to many approaches in qualitative analysis. In this sense, it is

difficult to isolate the specific conceptual foundations of the method, as parallels of the guiding principles, broad structures and specific steps can be easily found in many other analytic techniques; for example, grounded theory (Corbin and Strauss, 1990; Glaser and Strauss, 1967), frameworks (Ritchie and Spencer, 1994), and many others (see Bryman and Burgess, 1994; Cresswell, 1997; Denzin and Lincoln, 1998; Feldman, 1995; Miles and Huberman, 1994; Silverman, 1993). Nevertheless, from a purely chrono-logical stance, this particular technique was developed based on some of the principles of argumentation theory (Toulmin, 1958).

Argumentation theory (Toulmin, 1958) aims to provide a structured method for analysing negotiation processes. It defines and elaborates the typical, formal elements of arguments as a means of exploring the connections between the explicit statements and the implicit meanings in people's discourse. Within this framework, Toulmin describes argumentation as the progression from accepted *data* through a *warrant* to a *claim.* According to this formulation, a *claim* is the conclusion to an argument, the merits of which are to be established. *Data* consist of evidence, empirical or otherwise (e.g. examples), given to support a conclusion or claim. And *warrants* are principles and premises upon which the arguments in support of the claim are constructed. However, claims do not necessarily follow logically from the data and the warrants at hand, and for this reason there are *backings* (supportive arguments for warrants), *qualifiers* (elements of doubt in claims), *rebuttals* (conditions which falsify the claim), and *alternative claims.* With these essential components, arguments can be disentangled and presented intelligibly, thereby facilitating the process of negotiation in decision-making and problem solving.

Thematic networks aim to explore the understanding of an issue or the signification of an idea, rather than to reconcile conflicting definitions of a problem; for this reason, Toulmin provides the background logic, but not the final method. Toulmin's terms (claim, warrant, backing) provide an excellent organizing principle, but their reinterpretation for thematic networks has demanded that they be suitably adapted and renamed to fit with the objectives at hand. In fact, this core structure has significant parallels with the three basic elements of grounded theory: concepts, categories and propositions (Corbin and Strauss, 1990).

What is thematic networks analysis?

Applying thematic networks is simply a way of organizing a thematic analysis of qualitative data. Thematic analyses seek to unearth the themes salient in a text at different levels, and thematic networks aim to facilitate the structuring and depiction of these themes. Clearly, the process of deriving themes from textual data and illustrating these with some representational tool is well established in qualitative research. As such, thematic networks

analysis is not in any way a new method, but one that shares the key features of any hermeneutic analysis. What thematic networks offers is the web-like network as an organizing principle and a representational means, and it makes explicit the procedures that may be employed in going from text to interpretation. This is not a novel endeavour, and the aim in this article is simply to offer a tried and tested method to complement the range of tools available to qualitative researchers.

Thematic networks systematize the extraction of: (i) lowest-order premises evident in the text (Basic Themes); (ii) categories of basic themes grouped together to summarize more abstract principles (Organizing Themes); and (iii) super-ordinate themes encapsulating the principal metaphors in the text as a whole (Global Themes). These are then represented as web-like maps depicting the salient themes at each of the three levels, and illustrating the relationships between them (see Figure 1). This is a widely used procedure in qualitative analysis and parallels are easily found, for example, in grounded theory (see Corbin and Strauss, 1990). The procedure of thematic networks does not aim or pretend to discover the beginning of arguments or the end of rationalizations; it simply provides a technique for breaking up text, and finding within it explicit rationalizations and their implicit signification. The three classes of themes can be described as follows:

- *Basic Theme*: This is the most basic or lowest-order theme that is derived from the textual data. It is like a backing in that it is a statement of belief anchored around a central notion (the warrant) and contributes toward
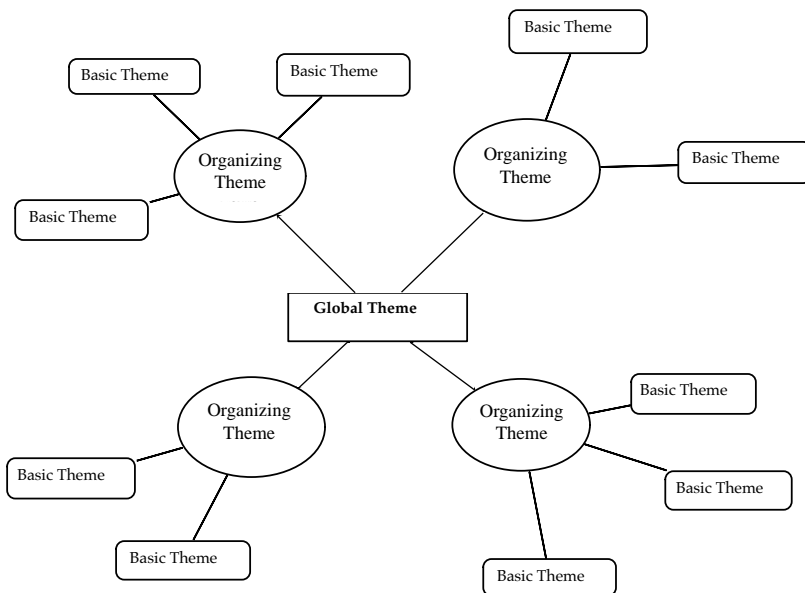

FIGURE 1. *Structure of a thematic network.*

the signification of a super-ordinate theme. Basic Themes are simple premises characteristic of the data, and on their own they say very little about the text or group of texts as a whole. In order for a Basic Theme to make sense beyond its immediate meaning it needs to be read within the context of other Basic Themes. Together, they represent an Organizing Theme.

- *Organizing Theme*: This is a middle-order theme that organizes the Basic Themes into clusters of similar issues. They are clusters of signification that summarize the principal assumptions of a group of Basic Themes, so they are more abstract and more revealing of what is going on in the texts. However, their role is also to enhance the meaning and significance of a broader theme that unites several Organizing Themes. Like Toulmin's warrants, they are the principles on which a super-ordinate claim is based. Thus, Organizing Themes simultaneously group the main ideas proposed by several Basic Themes, and dissect the main assumptions underlying a broader theme that is especially significant in the texts as a whole. In this way, a group of Organizing Themes constitute a Global Theme.

- *Global Theme*: Global Themes are super-ordinate themes that encompass the principal metaphors in the data as a whole. A Global Theme is like a claim in that it is a concluding or final tenet. As such, Global Themes group sets of Organizing Themes that together present an argument, or a position or an assertion about a given issue or reality. They are macro themes that summarize and make sense of clusters of lower-order themes abstracted from and supported by the data. Thus Global Themes tell us what the texts as a whole are about within the context of a given analysis. They are both a summary of the main themes and a revealing interpretation of the texts. Importantly, a set of texts may well yield more than one Global Theme, depending on the complexity of the data and the analytic aims; however, these will be much fewer in number than the Organizing and Basic Themes. Each Global Theme is the core of a thematic network; therefore, an analysis may result in more than one thematic network.

A thematic network is developed starting from the Basic Themes and working inwards toward a Global Theme. Once a collection of Basic Themes has been derived, they are then classified according to the underlying story they are telling and these become the Organizing Themes. Organizing Themes are then reinterpreted in light of their Basic Themes, and are brought together to illustrate a single conclusion or super-ordinate theme that becomes the Global Theme. Thematic networks are presented graphically as web-like nets to remove any notion of hierarchy, giving fluidity to the themes and emphasizing the interconnectivity throughout the network. Importantly, however, the networks are only a tool in analysis, not the analysis itself. Once a thematic network has been constructed, it will then serve as an organizing principle and an illustrative tool in the interpretation

of the text, facilitating disclosure for the researcher and understanding for the reader.

The remainder of this article illustrates the design, creation, structure and logic of thematic networks, taking the reader through a step-by-step guide to the analytic process. In an effort to provide a practical DIY-type manual for thematic networks analysis, the next section is followed by an empirical example presented to illustrate how each step may be completed in practice.

How to do a thematic networks analysis

1: THE ANALYTIC STEPS

The full process of analysis can be split into three broad stages: (a) the reduction or breakdown of the text; (b) the exploration of the text; and (c) the integration of the exploration. While they all involve interpretation, at each stage a more abstract level of analysis is accomplished. However, because it is difficult to articulate the difference between these levels of abstraction, the full process in thematic networks is presented as being constituted of six steps. Box 1 summarizes the basic steps, beginning from the moment of coding the text, assuming that the previous research stages of design, field-work or data collection, and (when required) transcription, have already been completed.

It is important to stress that this three-stage process, although common, is not the only way of conducting qualitative analyses. This article aims to describe how to do a thematic analysis using thematic networks and, as stated earlier, this is only one technique among a plethora of qualitative approaches (see Bryman and Burgess, 1994; Miles and Huberman, 1994). In particular the procedure of coding has been challenged (Coffey et al., 1996); however, while debates over the centrality of coding and the homogenization of qualitative analysis techniques continue, there is overwhelming agreement that data reduction is an important strategy for qualitative researchers (Lee and Fielding, 1996). In this context, coding is regarded as a helpful, though by no means unique or indispensable, technique in qualitative analysis.

Step 1: coding the material The first step in a thematic networks analysis is to reduce the data. This may be done by dissecting the text into manageable and meaningful text segments, with the use of a coding framework:

(a) *Devise a coding framework* There are a number of ways of doing this, but as a summary, it tends to be done on the basis of the theoretical interests guiding the research questions, on the basis of salient issues that arise in the text itself, or on the basis of both. The method chosen does not affect the construction of a thematic network. Depending on the researcher's objectives, the coding framework may be based, for example, on pre-established criteria (e.g. specific topics or words), on recurrent issues in

BOX 1. *Steps in analyses employing thematic networks*

ANALYSIS STAGE A: REDUCTION OR BREAKDOWN OF TEXT
Step 1. Code Material
    (a) Devise a coding framework
    (b) Dissect text into text segments using the coding framework

Step 2. Identify Themes
    (a) Abstract themes from coded text segments
    (b) Refine themes

Step 3. Construct Thematic Networks
    (a) Arrange themes
    (b) Select Basic Themes
    (c) Rearrange into Organizing Themes
    (d) Deduce Global Theme(s)
    (e) Illustrate as thematic network(s)
    (f) Verify and refine the network(s)

ANALYSIS STAGE B: EXPLORATION OF TEXT
Step 4. Describe and Explore Thematic Networks
    (a) Describe the network
    (b) Explore the network

Step 5. Summarize Thematic Networks

ANALYSIS STAGE C: INTEGRATION OF EXPLORATION
Step 6. Interpret Patterns

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the text, or on a set of theoretical constructs that are to be explored systematically.

(b) *Dissect text using the coding framework* In this step the codes are applied to the textual data to dissect it into text segments: meaningful and manageable chunks of text such as passages, quotations, single words, or other criteria judged necessary for a particular analysis. Again, this is a commonly used procedure and parallels are easily found in the literature (see, for example, Bryman and Burgess, 1994; Corbin and Strauss, 1990; Miles and Huberman, 1994; Ritchie and Spencer, 1994).

The first step in the analytic process is a rather rudimentary one, but it is imperative that it be completed with great rigour and attention to detail. The codes in the coding framework should have quite explicit boundaries (definitions), so that they are not interchangeable or redundant; and they should also be limited in scope and focus explicitly on the object of analysis, in order to avoid coding every single sentence in the original text. This is an important interpretative step, but the fun doesn't really begin until this stage has been completed.

Step 2: identifying themes Once all the text has been coded, themes are abstracted from the coded text segments:

(a) *Abstract themes from coded text segments* Go through the text segments in each code (or group of related codes), and extract the salient, common or significant themes in the coded text segments. This can be done by re-reading the text segments within the context of the codes under which they have been classified, abstracted from the full text. This procedure allows the researcher to reframe the reading of the text, which enables the identification of underlying patterns and structures.

(b) *Refine themes* Next, go through the selected themes and refine them further into themes that are (i) specific enough to be discrete (non-repetitive), and (ii) broad enough to encapsulate a set of ideas contained in numerous text segments. This reduces the data into a more manageable set of significant themes that succinctly summarize the text. The point here is to re-present the text passages succinctly, so this step is painstaking and requires close attention to conceptual detail. Identification of the themes requires a great deal of interpretative work. As they emerge, they have to be moulded and worked to accommodate new text segments, as well as old ones; each theme has to be specific enough to pertain to one idea, but broad enough to find incarnations in various different text segments.

Step 3: constructing the networks The themes identified provide the fountainhead for the thematic networks:

(a) *Arrange themes* Take the themes derived from the text and begin to assemble them into similar, coherent groupings: themes about X, themes about Y, etc. These groupings will become the thematic networks. Decisions about how to group themes will be made on the basis of content and, when appropriate, on theoretical grounds. It may be that the themes are few enough and about similar enough issues to fit under one network. If they are too numerous, or if quite distinct issues arise, then more than one grouping should be made. Each grouping will result in a distinct Global Theme, supported by discrete Organizing and Basic Themes. There are no hard and fast rules about how many themes should make a network but, from a practical stance, more than 15 may be too many to handle later on in step 5; and less than 4 may be too few to do justice to the data.

(b) *Select Basic Themes* The themes that have been derived from the text, and which are now assembled into groups, now get used as Basic Themes. This is a simple re-naming of the original set of themes, but it is helpful to render a conceptual division between the identification of themes, and the creation of the thematic network.

(c) *Rearrange into Organizing Themes* Create clusters of Basic Themes centred on larger, shared issues to make Organizing Themes. Identify and name the issues underlying them.

(d) *Deduce Global Theme(s)* In light of the Basic Themes, summarize the main

claim, proposition, argument, assertion or assumption that the Organizing Themes are about. This claim is the Global Theme of the network: the core, principal metaphor that encapsulates the main point in the text. If more than one grouping of themes was made in step 3(a), then the procedure needs to be repeated for each grouping, constructing distinct Global Themes for each set.

(e) *Illustrate as thematic network(s)* Once the Basic Themes, Organizing Themes and Global Themes are prepared, illustrate them as non-hierarchical, web-like representations. Each Global Theme will produce a thematic network.

(f) *Verify and refine the network(s)* Go through the text segments related to each Basic Theme and ensure that (i) the Global Theme, Organizing Themes and Basic Themes reflect the data, and (ii) the data support the Basic, Organizing and Global Themes. Make the necessary adjustments.

Recall that thematic networks are created by working from the periphery Basic Themes, inwards to the Global Theme. The objective is to summarize particular themes in order to create larger, unifying themes that condense the concepts and ideas mentioned at a lower level.

Step 4: describe and explore the thematic networks The next step is to describe and explore the networks. This is the first part of analysis stage B, where a further level of abstraction is reached in the analytic process. As stressed earlier, thematic networks are a tool in analysis, not the analysis itself; to take the researcher deeper into the meaning of the texts, the themes that emerged now have to be explored, identifying the patterns that underlie them. Once the networks have been constructed, the researcher needs to return to the original text and interpret it with the aid of the networks:

(a) *Describe the network* Taking each network in turn, describe its contents supporting the description with text segments.

(b) *Explore the network* As a description is being woven, begin to explore and note underlying patterns that begin to appear.

In this step the researcher returns to the original text, but rather than reading it in a linear manner, the text is now read through the Global Themes, Organizing Themes and Basic Themes. As such, the thematic network now becomes not only a tool for the researcher, but also for the reader, who is able to anchor the researcher's interpretation on the summary provided by the network. It is suggested that the networks be read in a sequential order (e.g. clockwise), to facilitate the presentation and under-standing of the material. In the description and exploration of the text it is useful to present text segments from the original transcripts/data to support the analysis. Step 4 brings together the data and the interpretation, and elaborates the analysis for an audience. It takes the researcher into a deeper level of analysis still, which is best conveyed by example, rather than

description, so this step is best illustrated in part 2, which presents an empirical example.

Step 5: summarize the thematic network Once a network has been described and explored in full, present a summary of the main themes and patterns characterizing it. The objective here is to summarize the principal themes that began to emerge in the description of the network, and to begin to make explicit the patterns emerging in the exploration. Some of these may have already been hinted at in step 4, but presenting them succinctly and explicitly for the audience is very useful in the analytic process, and makes the interpretation more compelling. Again, illustration is better than instruction, and the empirical example in part 2 illustrates this step succinctly.

Step 6: interpret patterns Bring together (i) the deductions in the summaries of all the networks (if more than one was used), and (ii) these deductions and the relevant theory, to explore the significant themes, concepts, patterns and structures that arose in the text. The aim in this last step is to return to the original research questions and the theoretical interests underpinning them, and address these with arguments grounded on the patterns that emerged in the exploration of the texts. This is a complex and challenging task that is difficult to explain procedurally. More will be said on this at the end of the next section.

2: AN EMPIRICAL EXAMPLE

The example to be used here is taken from an analysis of two focus groups on the cultural representations of nature in Britain.[1] The emphasis here is on the *process* of analysis, rather than the content of the interpretation; however, as it is easier to understand processes within a meaningful context, it is helpful to go through each step within the framework of a concrete example. We begin at the point of coding the transcripts of the tape-recorded focus groups.

Step 1: coding the material In the case of this example, 24 codes were derived on the basis of (a) specific theoretical interests regarding the social construction of nature, and (b) recurrent issues in the discussions regarding intimacy. These two foci were combined and, by going through the transcripts, the most salient constructs in the discussions were identified and shaped into a finite set of codes that were discrete enough to avoid redundancy, and global enough to be meaningful. The transcripts were then dissected, classified and organized according to these codes. For example, the code 'Instinct' included text segments such as, 'Birds have an instinct to build nests and lions have an instinct to defend their territory'. The code 'Order and laws' included text segments such as, 'People eat animals, that's part of evolution; it's just the way things are'. The emphasis was conceptual and a given quotation could be classified under more than one code.[2]

Step 2: identifying themes In this case, the 24 codes were grouped into 6 clusters and each code's text segments were re-read. As this was done, a record was kept of (i) the various issues that were being handled (listed in the second column of Table 1); (ii) the themes that were emerging; (iii) the reference of the specific quotations that contained each theme; and (iv) the number of quotations that contained the theme.[3] The 24 codes, and over 800 text segments were reduced to 25 themes (listed in the third column of Table 1). In the example presented here, the analysis focused on discursive themes common *across* the interviewees. I was interested in the *themes that were common through both focus groups*; therefore, the themes that were more common were given precedence. This criterion for selection was not intended to attribute greater overall explanatory value to themes on a quantitative basis; it simply made it possible to focus attention on the common, homogenous, popular themes, which was the specific interest of this study. Another analysis with a focus on, for example, individual narratives or group differences, would quite appropriately employ a different criterion for selection which might be, for example, themes that signify poignant demarcations, or themes that are particular to a group. Thematic analyses, and thematic networks, are equally applicable in analyses with a focus on commonalities, differences or contradictions, and it is up to the researcher to identify themes in a manner that is appropriate to her or his specific theoretical interests.

Step 3: constructing the networks Table 2 illustrates steps 3(a) to 3(d) in the construction of the thematic networks in this example. The 25 themes were arranged into three broad groupings, on the basis of related conceptual content, see step 3(a). Taking each group in turn, the themes, now interpreted as Basic Themes, were then assembled into 11 groups, again on the basis of conceptual correspondence, see step 3(b). The 11 groups of Basic Themes were then interpreted as Organizing Themes, and the underlying issues shared between the Basic Themes were identified and made explicit, thereby naming each Organizing Theme – second column of Table 2 – see step 3(c). Taking in turn each of the three groups of themes identified in step 3(a), three Global Themes unifying the Organizing Themes were then deduced; these summarized the main propositions of the 11 Organizing Themes and the 25 Basic Themes – third column of Table 2 – see step 3(d). These were then illustrated as three separate thematic networks – step 3(e), e.g. Figure 2, and verified and adjusted against the data, see step 3(f).

Step 4: describe and explore the thematic network 'sexual intimacy is natural' The example to be used here is based on the second Global Theme in Table 2: 'sexual intimacy is natural'. This constitutes one thematic network comprising two Organizing Themes and five Basic Themes. This network represents an exploration of participants' conceptualizations of

TABLE 1. *From codes to themes*

Codes (Step 1)	(Issues discussed)	Themes identified (Step 2)
– Drives – Instinct – Needs	• intrinsic motivation • uncontrollable • essential • universal • physical • biochemical	1. Instincts are complex, unreflected patterns of behaviour 2. Intrinsic needs and drives motivate and compel behaviour
– Animal comparisons – Biology – Evolution – Humanness	• uncontrollable • inevitable • progress • self-fulfilling • intrinsic motivation • essential • biochemical • organic • physical • procreation • manipulation • superior	3. Evolution represents an ordered, self-fulfilling system 4. Comparisons to animals imply human continuity and superiority 5. Humans have an organic, biological, biochemical make-up 6. Humans have an intrinsic urge to explore environment
– Choice – Desire – Learning	• free will • want • option • control • higher thought	7. Human's higher thought enables complex learning 8. Humans have an inherent endowment to desire and choose at will
– Reproduction – Sex	• sexual intimacy • procreation • intrinsic motivation • biochemical • physical • heterosexual	9. Sex has unavoidable, reproductive functions 10. Sexual urges are intrinsic and universal to the human animal
– Attraction – Intimacy – Pleasure – Platonic	• sexual intimacy • partnership • enjoyment • sensation • physical • psychical • friendship • sharing and trust • understanding	11. Intimate companionship is an especially absorbing sexual friendship 12. Intimate companionship is a psychical connection with another 13. Sexual companionship brings enjoyment of pleasurable sensations
– Nature applied – Nature defined – Order and laws – God/Religion – Good – Bad – Unnatural – Abnormal	• uncontrollable • spontaneous • organic • inevitable • omnipotent • order • balance • universal • progress • intrinsic motivation • factual, true • beneficial, life • healthy • superior	14. An organic, self-fulfilling system 15. An omnipotent force 16. An inherent order 17. A normal, accepted phenomenon 18. A real, factual truth 19. An essential quality 20. Beyond human control 21. Without human manipulation 22. Uncontrived and innocent 23. Beneficial, wholesome and trustworthy 24. Preferable because it's superior 25. Everything is natural

TABLE 2. *From Basic to Organizing to Global Themes*

Themes as Basic Themes	Organizing Themes	Global Themes
1. Instincts are complex, unreflected patterns of behaviour 2. Intrinsic needs and drives motivate and compel behaviour	Inherent dispositions	Humankind is natural
3. Evolution represents an ordered, self-fulfilling system 4. Comparisons to animals imply human continuity and superiority 5. Humans have an organic, biological, biochemical make-up 6. Humans have an intrinsic urge to explore environment	Organic constitution	
7. Human's higher thought enables complex learning 8. Humans have an inherent endowment to desire and choose at will	Ability to exercise free will	
9. Sex has unavoidable, reproductive functions 10. Sexual urges are intrinsic and universal to the human animal	Biological imperative	Sexual intimacy is natural
11. Intimate companionship is an especially absorbing sexual friendship 12. Intimate companionship is a psychical connection with another 13. Sexual companionship brings enjoyment of pleasurable sensations	Intimate companionship	
14. An organic, self-fulfilling system 15. An omnipotent force 16. An inherent order	Nature as a living whole	Nature is truth
17. A normal, accepted phenomenon 18. A real, factual truth	Nature as something concrete and objective	
19. An essential quality 20. Beyond human control	Nature as a fixed and immutable quality	
21. Without human manipulation 22. Uncontrived and innocent	Nature as something pure and untainted	
23. Beneficial, wholesome and trustworthy 24. Preferable because it's superior	Nature as a positive value	
25. Everything is natural	Nature as reality	

sexual intimacy in the context of the broader discussion on nature. Recall that the network itself is only a tool; this step represents a considerable analytic leap, in which the process of interpretation takes on a higher level of abstraction. Here the network is explored and described in detail, enabling patterns in the texts to emerge.

The discussion of sexuality highlighted some fundamental tensions revolving around the body, the mind and their relationship to nature as an organic system. The thematic network (Figure 2) illustrates concisely the key themes on which sexual intimacy was anchored: reproduction and companionship. This generated an interesting discussion in which sexual intimacy was seen to hold the peculiar and difficult position of being both an essential part of nature (for reproduction), and a fundamentally separate element (companionship). In this sense sexual intimacy emerged as fundamentally characterized by the mind/body tension.
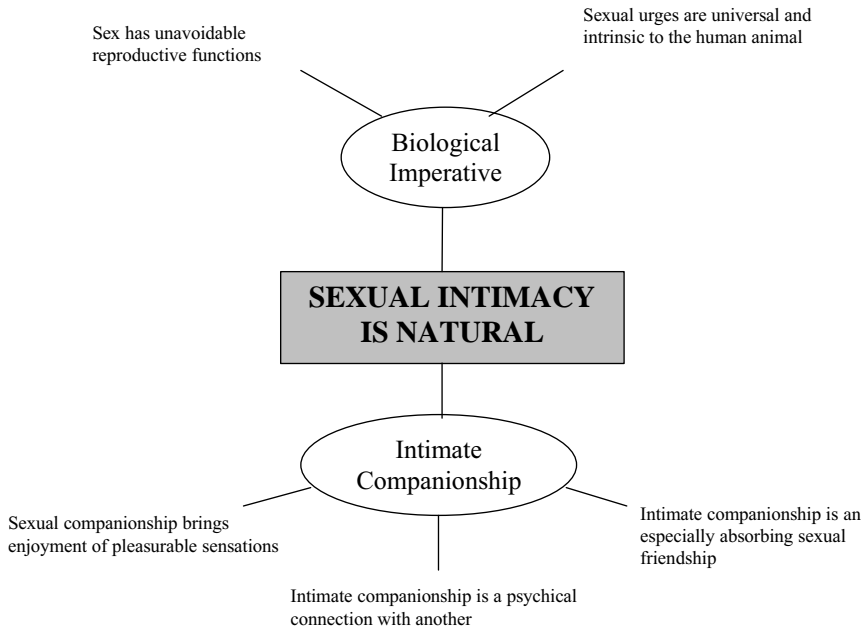

FIGURE 2. *Thematic network for 'sexual intimacy is natural'*

Organizing theme: biological imperative This Organizing Theme pertains to the fundamentally biological character of humans, as characterized by participants. In this context, sexual intimacy was conceived as something innate: something essential to the human condition and ingrained in our organic constitution. According to this Organizing Theme, sex is indispensable for the human animal; it is necessary for reproduction, and it characterizes all of humanity. The need for intimate companionship was seen to be born from the evolved constitution of the human animal; sex reiterated the echoing of our evolutionary past – particularly when its <u>role in reproduction</u>[4] was discussed,

which invariably reduced the human being to an instinct-driven human animal:

Dan: That is the natural order of things and basically – going back to what we need and what we want: food, drink, shelter, and then we need to propagate, which is what sex is about; basically it's there to propagate, which is what we're talking about here. But that is all tied up, you do that with a partner and it's the basis of the family which you see all around you in nature. *We're just naked apes, and apes do the same; they do, they partner up.*[5]

The basal and crude necessity for sexual reproduction, with all its corporeal urgency, reduced sexual intimacy to a physical activity in which two (heterosexual) bodies were essential; however, sexual activity was not by any means relegated to its procreative functions exclusively. Sexual intimacy was seen to involve considerably more, even if the reproductive element was certainly held as the cornerstone of human sexuality. Additionally, it was seen as an essential characteristic of human beings, and in this sense the functional aspects of the reproductive discourse were abandoned in favour of less mechanical, but equally universal claims about human sexuality. Sexual impulses were seen to be <u>universal across the human race</u> and, therefore, an immutable part of the human organism:

Dan: [Pairing up is natural because] it goes on in all societies, whether developed or not, throughout the world. It goes on throughout history and prehistory – as far as we can determine in prehistory. It's just a natural state
Lisa: If you read books, you just get the idea that it's just been going on for millions of years
Tracy: What people feel when they are in love with a partner, is the same throughout the world. . . . It's something that's a part of us as a natural instinct.

According to this discussion, to be human was to be sexual, and part of the reason for this was our basic need to reproduce – something we inherited in our evolved constitution. However, we were not seen to be so base as to be limited by these biological drives. Humans were seen to escape at least some of the restrictions and, in this sense, sexual intimacy was conceptualized less as a physiological function and more as a psychical phenomenon.

Organizing Theme: intimate companionship The human need for companionship was certainly seen as elementary; however, moving away from its conceptualization as an organic impulse, the discussions also elaborated on the less carnal elements of sexual intimacy. In this Organizing Theme, sexual intimacy was conceptualized as something more mental, more emotional, more psychical – a discussion that elicited a detailed description of the idealized features of intimate companionship.

In defining intimate companionship, one of the most essential factors was the intertwining of <u>sexuality and friendship</u> into something greater than the sum of its parts. Intimate companionship was perceived as founded on

friendship, on trust and understanding; but what pushed it over the threshold of a mere platonic relationship was the sexual element. Thus, 'intimacy' implied necessarily 'sexual intimacy', and even if it was also conceptualized as the closeness of any relationship built on trust, sharing and understanding, sex differentiated the type of intimacy one has in a friendship from the type of intimacy one has in a partnership:

J: So are friendships and intimate companionships the same thing?
Mat: Well, intimate companions are friends you choose to spend more time with
Liam: No, but you don't have sex with your friends
Isabel: Yeah, I understand intimacy as sex, or something to do with sex, and which is that door that is not open with all your close friendships. So intimacy is a sort of extension or expansion of your own self and the other into a different plane of relating.

This notion of sex as a window to closeness was a central theme in the context of intimate companionship. However, sex alone was not seen to guarantee closeness or trust; something else was required to push a relationship beyond the carnal and transform it into something grander: trust and mutual understanding. Indeed, knowledge of each other was the crucial element that allowed the sexual interaction to transform a friendship into an altogether larger venture: a psychical connection. Through sexual intimacy we were seen to reveal a great deal about ourselves and, in the right conditions, sex became a sublime act of self-disclosure:

Liam: I think *it's to do with being known, letting someone know you more.* So the more you have sex with someone, it's like the more you're allowing yourself to be known. . .
Joy: It is about closeness, and this is the closest that you get.

The result of this consummation is a merging of two individuals into a distinct unit, elevating the relationship above that of mere friendship. According to this discourse, to be intimate companions is to reach the pinnacle of sharing and understanding; and this compatibility is warranted precisely by the fact that two minds have converged. The intimate companions have disclosed themselves so much and opened up so thoroughly, that trust becomes a crucial imperative, and the key to trust is conceived as an unrestricted access to each other's minds:

Sarah: I think it's like an intuition. There's a mental intuitive . . . that kind of link (snaps fingers): *same thought, same mind.*

And last, in this increasingly metaphysical conceptualization of sexual intimacy and intimate companionship, was the element of pleasure, which transcended the base carnality of physical sensation and referred to a deeper, psychical rapture:

Mat: Because [sexual intimacy] is great. Because I enjoy it . . . it increases from a physical, to a mental, to an emotional state and that's what you thrive on, in

> terms of being able to experience the world. To be in tune with yourself, to some extent, mentally, physically and emotionally is the only way you can do it, and the only way you can try to do it. Otherwise you just get lost in the world.

It is a mental and emotional euphoria that enlivens our existence momentously. Thus, the delights of sexual intimacy were central in the conceptualization of intimate companionship; but this was a pleasure that exceeded physiology, becoming a higher plane from which to experience the world. Nevertheless, even when the euphoria was mental or emotional, it remained firmly rooted in sensation: it *felt* good. The pleasures of intimate companionship once again remind us of our physiology, and thus we return to our corporeal selves and become, once again, organic. The discussion of intimate companionship represents an effort to detach sexual intimacy from its perceived biological underpinnings. It is an attempt to see something less carnal and more genteel in the intimacy between two people; and yet, in the end, the discourse invariably returns to the body.

This concludes this particular thematic network and step 4 of the analytic process. Each of the Organizing Themes has been explored fully, elaborating on the signification of the Global Theme, illustrating it with the Basic Themes and supporting the interpretation with text segments. The next step (5) is to summarize the network.

Step 5: summarize the thematic network The body/mind tension was central in the conceptualization of sexual intimacy as natural. Here the tension was represented as a disjunction between (i) the biological requirements of our organic constitution, and (ii) the psychical or emotional investment demanded by intimate companionship. And the central contention is that while the body destines us to biological enslavement, the mind liberates and elevates us.

Nature held a tenuous position in these deliberations and, while both accounts of intimacy are described as natural, nature connotes quite distinct meanings in each case. In the first conceptualization of sexual intimacy as a biological imperative, nature was seen to imply something biological and organic – something rooted in a palpably physical and corporeal reality. In the second instance, however, when sexual intimacy was conceptualized in the context of companionship, nature connoted, instead, a more metaphysical underpinning – it became something grounded on trust and mental connection. Indeed, the concept of nature, with all its various meanings, has been crucial in these discussions, and the next thematic network unpacks the implications of nature's manifold significations (see Table 2; description not included here).

Step 6: interpret patterns This example is incomplete, however, as these paradoxical discourses cannot be resolved without appreciating the full context of the analysis (step 6), which brings together all the thematic

networks in an extensive exploration of the social construction of nature. However, it is not possible to present an empirical example of step 6 without presenting the remaining two networks of the full analysis, which is clearly beyond the scope of this article. Nevertheless, a note on procedure may be of help to the reader.

In this step, the aim is to take the key conceptual findings in the summaries of each thematic network, and pool them together into a cohesive story by relating them back to the original questions and the theoretical grounding of the research. A piece of research will normally begin with some key questions or concerns, and with a theoretical grounding about the questions and the object or issue they are exploring. In step 6, the researcher must relate the principal themes and patterns that emerged in the analysis to the original questions; and propose some explication of the questions grounded on the content and exploration of the texts, and on the theoretical constructs guiding the research.

In the example presented here, the original questions concerned the conceptualization of nature; intimate companionship merely provided a context for the discussion (this may not be immediately apparent from this thematic network specifically, but it is clear from the other two, larger, networks). Thus, the discussion in step 6 revolved around the issues that emerged in all three networks (the body/mind tension, instincts, evolution, free will, etc.). These were then related to the core theoretical assumptions regarding the social construction of nature, and its implications for the conceptualization of *naturalization*, a process whereby socially created concepts come to be seen as eternal and immutable.

Clearly, it is difficult to elaborate this argument adequately on the basis of the very small portion of the full analysis demonstrated here. The objective has been to simply give some indication of how step 6 may be conducted, though the emphasis necessarily remains on steps 1 to 5. Nevertheless, the reader can begin to appreciate how the analysis is woven together and presented with the thematic network as the basis.

Conclusion

The objective of this article has been to present a step-by-step guide of how to conduct a thematic analysis of qualitative data with the use of thematic networks. The example presented has been incomplete, as the final step in the analytic process, the interpretation of the patterns (step 6), has had to be omitted. Nevertheless, the reader can begin to appreciate the systematization enabled by the technique, and the richness of the exploration that this process allows. By breaking up the text into clearly defined clusters of themes, the researcher is able to unravel the mass of textual data and make sense of others' sense-making, using more than intuition.

Analysis of qualitative material is a necessarily subjective process

capitalizing on the researchers' appreciation of the enormity, contingency and fragility of signification. Indeed, one of the principal reasons for using this method is, precisely, to bring to light the meaning, richness and magnitude of the subjective experience of social life (Altheide and Johnson, 1994). Meaning can only be understood within a social context (Saussure, 1974), so the very notion of objectivity (i.e. the absence of interpretation) is necessarily omitted from the equation in qualitative research, thereby rendering analysis outside positivistic endeavours for objectivity (Denzin, 1994). And, as such, the standards for assessing the merits of a piece of qualitative research must rely on other criteria (Hollis, 1994).

The value of qualitative research lies in its exploratory and explanatory power, prospects that are unachievable without methodological rigour at all stages of the research process – from design, to field work, to analysis. Recounting the first two stages is reasonably straightforward and it is the analytic stage that suffers from gross under-reporting. The reasons are numerous (including the fact that it is a highly intuitive, theoretically driven stage that doesn't take place in a simple linear format), but one of the principal causes is the lack of tools available for carrying out such analyses. There is a need for interpretative tools in qualitative research, for the creation of methods, guidelines and techniques, and for the exchange of ideas, concepts and experiences. Disclosure of the process of interpretation undertaken by qualitative researchers is an important step in this direction, and a positive contribution to qualitative research as a methodology. This article has attempted to provide one such tool; thematic networks are part of, and attempt to contribute to, the development of qualitative methods and, in particular, to the advancement of the most elusive step in the research process: analysis.

NOTES

1. For a complete version of this analysis and the study of which it is a part, please refer to Attride-Stirling, 1998. For specific application of thematic networks, see chapters 6 and 9.
2. In fact, in this case the texts were coded using the software ATLAS/ti, a computer-assisted qualitative data analysis software. The use of such programmes is strongly recommended, as they speed up the process of analysis by giving the researcher expedient access to coded text quotations, in a highly sensitive format. This, in turn, facilitates analysis, by allowing the researcher to concentrate on conceptual issues, without having to worry about storage and retrieval of information. (For more information and guidelines for using software programmes in qualitative analysis, see Kelle et al., 1995; Lee and Fielding, 1991; Richards and Richards, 1994a, 1994b; Weitzman and Miles, 1995).
3. This is one of the most basic advantages to using text interpretation software: expedient access to coded text.
4. The Basic Themes in the Thematic Networks are underlined in the text to call the reader's attention to cross-reference with the relevant illustration.
5. Note that all italicized segments in the quotations are intended to call attention to particular parts of the text and they represent the author's own emphases.

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