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Revisiting Bott to Connect the Dots: An Exploration of the Methodological Origins of Social Network Analysis

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Elizabeth Bott
Spillius

Abstract: Against a backdrop of a growing interest in qualitative and mixed-method approaches to social network analysis (SNA) and the exploration of ego-networks, in this article I revisit the pioneering urban families research of the social anthropologist and psychoanalyst Elizabeth BOTT (1971 [1957]) in the mid-twentieth century. While BOTT's work has been widely recognized as formative for contemporary approaches to, and concepts in, SNA, her methodological practice has been under-explored. In the discussion that follows I therefore seek first to precis the methods of data collection and analysis employed by BOTT with a view to distilling insights for current practice. In addition, I analyze the approach to research design taken by BOTT in order to better understand how the social networks innovation her work heralded was realized.

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1. Introduction

There is a growing interest in the use of network analysis in mixed-methods studies (CROSSLEY, 2010; DOMINGUEZ & HOLLSTEIN, 2014; EDWARDS, 2010), and in particular in "how to mix network analysis with qualitative methods in sociological research" (BELLOTTI, 2015, p.5) including with ethnographic methods specifically (BERTHOD, GROTHE-HAMMER & SYDOW, 2016; TROTTER II, 1999, 2003; WHITE & JOHANSEN, 2005). Likewise a growing number of researchers are using qualitative data collection techniques to generate data amenable to social network analysis (SNA) (e.g., CROSSLEY & IBRAHIM, 2012; FLETCHER & BONELL, 2013; NOACK & SCHMIDT, 2013; SMALL, 2009; WELLS, 2011) and still others, in particular in the German-speaking socio-scientific community (NOACK & SCHMIDT, 2013, p.83), are starting to formalize distinctively qualitative forms of network analysis (HERZ, PETERS & TRUSCHKAT, 2015; also DIAZ-BONE, 2007). Work in this emerging

sub-field resonates with studies by a rather under-explored group of UK-based social anthropologists working at the London School of Economics and Political Science (LSE) in the mid-twentieth century. In this article I seek to revisit the scholarship of one member of this group, Elizabeth BOTT SPILLIUS¹, with two interrelated aims. First, I will consider the implications of her work for how we might more formally incorporate network analysis into qualitative research. In addition, in a context of increasing emphasis on the importance of methodological innovation (TAYLOR & COFFEY, 2009), I want to explore the broader, and often neglected question of how *methodologically* BOTT's conceptual innovation was realized (complementing SAVAGE's [2005] reinterpretation of the interpersonal [between-collaborator] circumstances of her network breakthrough). Over the course of this article, I will pay particular attention to the research design approach employed by BOTT and her collaborators and the role that their adhering to this approach had in affording conditions amenable to analytical creativity. [1]

To do this I will return to BOTT's (1971 [1957]) pioneering work on the relationship between married couples' social networks and the conjugal roles they performed. BOTT's observations on this relationship derived from a well-known "exploratory" and inter-disciplinary (primarily anthropological, sociological and psycho-analytical) study of urban families (BOTT SPILLIUS, 2005, p.660) that she worked on as part of a small research team of four core members. Her contribution to this research formed the basis of her 1956 PhD which was written up as a monograph, "Family and Social Network" (FSN), in 1957 (of which an extended second edition was published in 1971). It is worth pointing out that despite BOTT's non-usage of the term ethnography to describe FSN, it has subsequently been described as "a major ethnographic study" (SAVAGE, 2008, p.580; also JONES & WATT, 2010; TROTTER II, 1999) and appraised as a formative urban anthropological work (HANNERZ, 1980, pp.165-168). Such appraisals are not unfounded; the level of sustained contact with the study participants involved in collecting data for FSN, and BOTT's belief that behavior could only be understood *in situ* (1971 [1957], p.4), certainly render the study ethnographic in a "little ethnography" sense (BREWER, 2000, p.18). In this vein, much of the following discussion will relate to the implications of BOTT's work for qualitative research influenced by the ethnographic tradition whereby particular importance is placed on seeking to understand human experience through extensive contact, interaction and participation in the natural settings of people's daily lives (HAMMERSLEY & ATKINSON, 2007, p.3). [2]

I will begin by briefly revisiting the early work of Elizabeth BOTT, paying particular attention to the influence these writings on subsequent scholarship (Section 2). I will then focus on BOTT's particular contribution to social network research (Section 3), before outlining the methodology used by BOTT and her colleagues (Section 4) paying particular attention to their data collection methods (Section 5). In Section 6, I will analyze the qualities of BOTT's methodological approach that

1 Most of the work referred to in this article was written under Elizabeth BOTT SPILLIUS' birth name (Elizabeth BOTT). For this reason, unless citing a work authored under the name Elizabeth BOTT SPILLIUS, I will refer to BOTT SPILLIUS as BOTT throughout the article.

afforded innovation. Finally, I will explore the practical implications of the preceding discussion for qualitative research more broadly (Section 7) and conclude by making the case for learning not only from BOTT's innovative use of qualitative research to explore social networks but also from her commitment to a flexible research design that made this innovation possible (Section 8). [3]

2. Revisiting BOTT

Elizabeth BOTT has been described as "one of the most feted, yet also one of the most strangely neglected, figures in the history of post-war British social science" (SAVAGE, 2008, p.579). Centrally for this article, while the substantive contribution of her work to sociology, and in particular family sociology, has been immense (MARSHALL, 1990; SAVAGE, 2008), her broader conceptual and methodological contribution to the social sciences has been relatively overlooked. While the pre-eminent product of her early research—a neat and testable hypothesis about the importance of couples' social networks to conjugal divisions of labor—has been subject to extensive citation (SAVAGE, 2008, p.579), testing (ISHII-KUNTZ & MARYANSKI, 2003; TREAS, 2011) and conceptual development (WELLMAN & WELLMAN, 1992), the methodological form of her research practice has been under-explored. Therefore, I will revisit BOTT's early work to not only evaluate the approach to data collection and analysis she took, but also (in line with KLEINING & WITT's [2001, §21] call for the study of influential studies that realized discovery) to analyze the characteristics of her broader approach to fieldwork and how these might relate to methodological innovation. [4]

For SAVAGE (2008, p.579), BOTT's degree of influence was such that her work "opened up a new vision for the remit of the social sciences in general, and of sociology in particular, as a discipline concerned with [the] nature of social relationships." Despite this, the particular social network conceptual approach she articulated failed, until recently, to gain much traction in British social research and lost its qualitative emphasis as the concept was taken-up elsewhere (SAVAGE, 2008, pp.579-580). This neglect of BOTT's methodological contribution may in part stem from a broader and well-documented effacement of women from the history of ideas (SPENDER, 1982). More agentic causes also appear to be at play, however. Specifically, BOTT's existence as "something of a disciplinary migrant" (MARSHALL, 1990, p.236) may have been influential. Thus, even before the first edition of FSN was published BOTT acknowledges she "was already changing [disciplinary] direction" (BOTT SPILLIUS, 2005, p.662), as attested by her commencing psychoanalytic training in 1956. Recalling how she had little opportunity for anything other than "family matters and learning psychoanalysis" (p.663) in this period it is clear that BOTT did not have the time, let alone the interest, to consolidate her methodological advances. At the same time, it has also been argued that BOTT and her peers John BARNES and Siegfried NADEL (who employed similar relational analyses in the work they undertook at the LSE alongside BOTT at the time) shared a reluctance to expand their concept of "social networks beyond that of an 'analytical concept' applicable to rural and urban settings" (PRELL, 2012, p.35). As such, concerted efforts on the part of these scholars to abstract methods from their work were lacking

precisely as more quantitative approaches to the collection and analysis of network data began to take hold (EMIRBAYER & GOODWIN, 1994, pp.1416-1417). [5]

3. Network Innovations: The Contribution of Elizabeth BOTT

As the social anthropologist and founder of the Manchester School of Anthropology, Max GLUCKMAN (1971, p.xviii), sums up in his preface to the second edition of FSN, BOTT's work is concerned with the "segregation of roles" between family members. Specifically, BOTT's study came to focus on variations in the conjugal "role-relationship"—defined as "those reciprocal role expectations that were thought by husband and wife to be typical in their social circle" (BOTT, 1971 [1957], p.3)—between a sample of 20 London families. With this focus, BOTT observed how in some families with a sharp division of labor between spouses, leisure time and recreation would not be shared between husband and wife. By contrast, in other families husbands and wives would spend substantial amounts of recreation time together and in these instances a less rigid division of household labor was observed. [6]

These observations were not only described in great detail but importantly out of them BOTT set out her groundbreaking hypothesis which has subsequently become known simply as the "Bott hypothesis." This hypothesis holds that a positive correlation can be observed between the network density of a given husband and wife's personal social networks and the segregation of conjugal roles observed for that couple. For BOTT (pp.3-4):

"[T]hese variations in roles are not purely idiosyncratic, but neither are they produced directly by membership in general sociological categories such as social classes, income groups, occupational groups, and so forth. They are associated with the pattern of actual social relationships between the family and their acquaintances and kin, and also with the patterns of relationships among these acquaintances and kin themselves." [7]

As BOTT makes clear, the FSN research team did not set out to undertake a study of familial networks. Rather they pursued a much more general aim "to understand the social and psychological organization of some urban families" (p.1). To generate this sort of understanding, BOTT and her research team sampled (in a way that would now likely be described as purposive) 20 families from London, controlling for family structure (all of the families involved included children) and religious background (all were English Protestant families) but allowing geographical location (within London), occupation and socio-economic status to vary (BOTT SPILLIUS, 1990 [1954], p.325). Mirroring the exploratory basis of the study, a range of "field techniques" drawn from sociology, social anthropology and psychoanalysis were deployed over the course of the research. These comprised: sequential "home interviews" with each of the study families (with an average of 13 home interviews per family conducted); relatively limited (by anthropological standards) observational data recorded over the course of the fieldwork; a number of discussions with persons (such as doctors) and groups

(such as community center groups or parent-teacher groups) "in an attempt to situate the interviewees within the larger context of the community in which they lived" (BERKOWITZ, 1982, p.27); and a separate "clinical investigation" (BOTT, 1955, p.352) in which 15 couples from the study sample underwent "clinical interviews." [8]

How, then, did BOTT come to develop "one of the most illuminating analyses ever to emerge from social anthropology" (GLUCKMAN, 1971, p.xiv)? How did she realize her "new conceptual approach or perspective to qualitative research data" (TAYLOR & COFFEY, 2009, p.524)? Critically, her ability to make the insights for which her work is renowned rested in part on the committedly exploratory form of the research design employed by her research team. Notably, and this may in part stem from the inherently inter-disciplinary nature of the study, BOTT was not wedded to any particular mode of data analysis—e.g., content analysis, conversational analysis or thematic analysis—that might serve to set boundaries for the scope of any findings reached. Rather, as per the methods used to collect data, BOTT opted to first-and-foremost describe (rather than categorize) the analytical approach taken during the research. Thus BOTT identified the following as "essential to the method of analysis adopted":

"[I]nterpretations have been arrived at by making systematic comparisons in which each family is treated as a social system, that is, as a system of interdependent roles, as an organized group carrying out tasks in a particular social environment. Only those data essential to the comparative analysis are described" (1971 [1957], p.4). [9]

This points to another methodologically innovative feature of FSN that is important here. Not only did BOTT start to elaborate some concepts still core to SNA, but she was also pioneering in her approach to inductive research. As GILGUN (1999, p.234) argues, BOTT's work on urban families "anticipates many of today's research methods, particularly grounded theory." Not in the least, "Bott not only anticipated the methods of grounded theory, but she even used the term *constant comparison*, a term Glaser and Strauss [1967] later used" (GILGUN, 1999, p.234). It was in carefully applying this constant comparative approach to her data (and specifically to each family "as a system of interdependent roles"), while explicitly deciding to "succumb in [the] confusion" of exploratory research (BOTT, 1971 [1957], p.9), that BOTT was able to hypothesize systematic differences in the conjugal roles of study couples that appeared to relate to the form of those spouses' social networks. [10]

Crucially, BOTT's deployment of constant comparison does not resemble typical textbook approaches to thematic analysis, whereby researchers "seek to unearth *the themes salient in a text* at different levels" (ATTRIDE-STERLING, 2001, p.387; emphasis added). Rather, BOTT sought not only to elucidate substantive themes salient across the textual interview data amassed by the research team but also to analyze these themes in relation to variously recorded attributes of the families involved in the study. Importantly, this comparison (of themes with study-family attributes) involved considering not only the conventional demographic characteristics of members of the families involved in the study, but also data

drawn from the interviews themselves (and from supplementary observations) about the social ties of the husbands and wives in each family. [11]

As has been noted, the salient theme that BOTT and her research team observed was "variations ... in the way husbands and wives performed their conjugal roles" (1955, p.345). In line with LEWIN's (1935, 1936) field theory (which informed BOTT's conceptual approach), the assumption was made that these observed variations "related somehow to forces in the social environment of the families" (BOTT, 1955, p.346). On this basis, a substantialist, variable-based analysis was initially pursued (EMIRBAYER, 1997, pp.282-291) through rudimentary attempts to statistically analyze the relationship between conjugal role relationships and first "social class" and then "neighborhood composition" (BOTT, 1955, pp.346-347). However, as BOTT (p.347) notes, such "attempts to correlate segregation of conjugal roles with class position and type of local area" were epistemologically unsuited to the exploratory design of the research and the researchers' "aim to make a study of the interrelation of various social and psychological factors within each family considered as a social system" (ibid.). Rather than use neighborhood boundaries as the bounds for her study, therefore, BOTT sought a relational understanding of social action through a more exploratory endeavor, one that has subsequently been described as a "network perspective" characterized by "a search for functioning primary ties, wherever located and however solidary" (WELLMAN, 1979, p.1202). [12]

In this respect, BOTT's exploratory approach, and emphasis on epistemological and theoretical consistency in FSN, led her to prioritize two interrelated principles that have subsequently been described as core facets of a relational sociology (EMIRBAYER, 1997). First, BOTT advocated the importance of context in her work—of analyzing families as social systems rather than entities constituted by detached actors (EMIRBAYER, 1997, p.288). Related to this interest in families as systems situated in spatiotemporal contexts, BOTT identified the importance of the transactional or relational constitution of these contexts and in turn sought to explore the significance of this empirically (by seeking to explore how "figurations of social ties" [EMIRBAYER, 1997, p.298] might explain variations in the segregation of conjugal roles). In line with EMIRBAYER's wider depiction of network analysts, BOTT's account of her epistemological approach implies an "anticategorical imperative" (EMIRBAYER & GOODWIN, 1994, p.1414), whereby she rejects the primacy of demographic attributes and other conventional variable measures in her analysis in favor of seeking to attend to the relational basis of social action. [13]

Given BOTT's exploratory predisposition, and specifically her wariness discussed above of the application of rote categorical analyses regardless of the study object, she decided to hone in on "the immediate social environment of the families" (1955, p.347) as a way of potentially developing a meaningful interpretation of the variation in conjugal roles observed. In practice this meant turning not to standardized demographic or local area data, or to extant social theory, but instead to the content of the interview and observational data itself. Thus, social relations were a prominent topic in the home interviews (for a full

outline of the topics covered see BOTT [1971 [1957], pp.231-237]) and one of the empirical outputs sought through each set of home interviews was "a description of external social relationships with service institutions such as schools, church, clinic doctor, and so forth, with voluntary associations and recreational institutions, and more informal relationships with friends, neighbours and relatives" (BOTT, 1955, p.351). Here we see an important move, echoed in the work of Barry WELLMAN, to reject "treating kinship systems as separate analytic entities" (1979, p.1211) in studies of community and instead seek to integrate them into a broader understanding of "[t]he multiple bases of intimate ties (kinship, friendship, etc.)" (ibid.). [14]

This network-oriented data not only listed the names of individuals each couple classed as friends, but also comprised information about these friends' "sex, age, occupation, the method of meeting, the nature of the relationship, frequency of contact and whether the relationship was joint or maintained largely by one or other partner" (BOTT, 1971 [1957], p.22). In addition, towards the end of the series of home interviews the researchers "began to ask specific questions about which friends, neighbours and relatives saw each other" (p.23) as a means to supplement more "impressionistic measures" (p.310) of connections between couples' personal contacts (or between the alters in their networks in the language of social network analysis) that they had gathered already. It was precisely this in-depth relational data, which was collected through sustained contact with those participants and through reliance on "detailed" accounts of "actual behavior" as well as each "couple's statements about their activities and relationships" (ibid.), that BOTT used to construct her hypothesis. As well as provide immensely detailed accounts of couple's behavior, BOTT was also willing to approach the whole range of her data for her analysis. Notably the degree of network connectedness was presented impressionistically (families' networks being adjudged to be "loose-knit" or "close-knit" [p.59], or somewhere between these extremes [p.95], rather than being "expressed in quantitative terms" [p.226]). However, as BOTT (1955, p.345) stresses, this approach to the data fitted the exploratory rather than experimental orientation of the study and importantly it enabled her to articulate the succinct hypothesis that has inspired much further research. [15]

4. BOTT's Ethnographic Approach to Networks: Outline of a Method

As has been discussed, BOTT's (1971 [1957], pp.6-51) account of the "methodology and field techniques"² employed over the course of the urban family study is highly descriptive, opting to portray through, often highly and atypically reflexive prose, the methodology employed rather than classifying and labeling the research methods used. Against a backdrop of "book publishers ... [being] increasingly reluctant to publish books that include a large methodological section" (GASKELL & BAUER, 2000, p.346), BOTT's (1971 [1957]) account of the methods used in *FSN* stands out for its "transparency and procedural clarity" (two core quality criteria for qualitative research according to GASKELL &

2 BOTT (1971 [1957], p.6) stresses that her account of the *FSN* "methodology and field techniques" was written in collaboration with James ROBB.

BAUER [2000, p.346]). This approach is not surprising, one can surmise, given BOTT's (1971 [1957], p.250) clear aversion to the use of conceptual "jargon" and preference for "ordinary" language. As a consequence, a unique methodology for FSN is depicted, integrating a number of field techniques in an exploratory and interdisciplinary design. To this end, an attempt to formalize a methodological approach to social networks is notably absent in BOTT's discussion of her research methods (also PRELL, 2012, p.35). [16]

For the publication of the second edition of FSN, BOTT did write-up a lengthy set of reconsiderations of her work in relation to 1. conjugal segregation and families' networks and 2. broader developments in social network research (see BOTT, 1971 [1957], p.249). Significantly, though, BOTT SPILLIUS (2005, p.662) later recalls with striking honesty how she undertook to write this "long afterword about network methods" solely as a means for her to claim copyright on the second edition of FSN and how it was "really quite painful to write" given that her "interests had shifted" toward psychoanalytic ideas. This afterword comprises for the most part a review of literature informed by the first edition of FSN in the intervening period and a set of responses to issues raised by various commentaries on her work. The afterword does not, however, attempt to formalize BOTT's approach to collecting relational data. In fact, such an endeavor would appear to be antithetical to BOTT's (1971 [1957], p.310) own aspirations for research in family sociology given her stated "hope that investigators who work in this field will look for methods to suit the conceptual and empirical problems instead of choosing problems according to whether they can be solved by existing methods." Rather than advocate the formalization of methodological approaches and their application to conceptual and empirical problems, BOTT has a much more open-ended and nuanced view of research methods. As she puts it, "[t]he anthropological method basically consists of messing about with a lot of variables and bits of information in a condition of acute uncertainty, in the hope that eventually one will see relationships one had not thought of before" (p.309). [17]

Despite BOTT's own disinclination to formalizing a qualitative approach to collecting data amenable to social network analysis, the methods used in the study of London families are certainly described in sufficient detail for an outline of such an approach to be discerned. So, how might we summarize BOTT's method? First, I would like to think about how BOTT and the research team she was part of collected their data and about the generalizable aspects of this approach for qualitative, and particularly ethnographic, researchers interested in social network dimensions of their research settings. Second, and more commensurate with BOTT's own epistemological leanings, I will consider the exploratory qualities of the methods used for FSN and the relationship between these "heuristic techniques" and the discoveries made by BOTT and her research team (KLEINING & WITT, 2001, §14). [18]

5. Setting out BOTT's Data Collection Method

As progress in the study of social networks gathered pace in the last few decades of the twentieth century, the use of "surveys and questionnaires soliciting self-reports ... [became] the predominant research method used" (MARSDEN, 1990, p.440) to collect network data, complemented "by the development of quantitative techniques and methods of a highly sophisticated nature" (EMIRBAYER & GOODWIN, 1994, p.1416). Such surveys have subsequently come to be referred to as name generator surveys (CAMPBELL & LEE, 1991) or network surveys (MARSDEN, 2011) and they continue to be the predominant method for collecting network data (see CROSSLEY et al., 2015, pp.56-57) despite numerous critiques (BREWER, 2000; FERLIGOJ & HLEBEC, 1999). More recently, however, a turn towards qualitative and mixed-methods approaches to studies of networks has been observed (BELLOTTI, 2015; DOMINGUEZ & HOLLSTEIN, 2014). Within this, a number of alternative approaches to collecting relational data have been discerned by scholars interested in methodology; in particular qualitative interviews, direct observations and the use of archives (esp. BELLOTTI, 2015, pp.67-75). [19]

It is to this more recently articulated set of qualitative and mixed-methods approaches to network data collection that the work of BOTT and her colleagues is the most methodologically similar. Specifically, the network data collected for FSN primarily derive from the "home interviews" conducted by BOTT and her colleagues. However, while a number of researchers have used qualitative interviews to generate social network data (see BELLOTTI, 2015, pp.69-70, for an overview; also NOACK & SCHMIDT, 2013), BOTT's approach to conducting interviews is still distinctive within this subset. Specifically, rather than conduct one-off interviews with members of the families involved in her study, or use an interview to supplement and elaborate survey-generated data, BOTT and her colleagues opted to conduct multiple (on average thirteen) interviews with each study family³ (cf. NOACK & SCHMIDT, 2013, p.84, who actively seek "the avoidance of additional appointments with ... interviewees" in the data collection technique they describe). Moreover, mirroring the emphasis on foregrounding "some of the transcendent and reflexive aspects of lived experience as grounded in place" (KUSENBACH, 2003, p.456) of go-along interviewing methods that have been formalized in recent years, these interviews were all conducted in each family's home rather than *ex situ*. In this way, as is central to psychoanalytic inquiry, but also to the principle of "naturalism" (BECKER, 1996, p.58) that informs much (in particular ethnographic) qualitative research, a strong degree of familiarity was developed with each study family by BOTT and her research team. [20]

Such extensive interviewing practices not only allowed the families involved in the study to get to know the researchers and in turn for the researchers to appear "in the role of friend" (BOTT, 1971 [1957], p.19), however. Importantly, they also

3 While survey-based longitudinal panel studies are increasingly being used by scholars to study network dynamics (LUBBERS et al., 2010), in part as a means to address a deep-seated critique of the failure of many network analysts to model network processes over time (EMIRBAYER & GOODWIN, 1994, p.1427), recursive in-depth qualitative interviewing to generate deeper and more rigorous understandings of respondents' ego-networks has not been embraced.

allowed the researchers to introduce their five core research topics (pp.21-23) over an extended period of time, with questions pertaining to interviewees' social networks falling in the third and fourth sections of the five-section topic guide used for home interviews (pp.231-237). By adopting this broadly sequential interviewing approach, questions about kin the families interacted with could be introduced once a general rapport with the families had been developed rather than a few questions into a questionnaire. This allowed the researchers to at least in part circumvent two recurrent pitfalls with the use of name-generator surveys, namely interviewee fatigue (PRELL, 2012, pp.72-73) and recall effects (BREWER 2000; BREWER & WEBSTER, 1999). In the former, when interviewees are subjected to a repetitive series of questions about each person in their social network that they mention there is an observed tendency for respondents to suffer from fatigue and in turn purposefully stem the amount of information they divulge. In the latter, it has been shown that "name generators only elicit a fraction of those persons having a criterion relationship to a respondent" (CARRINGTON, SCOTT & WASSERMAN, 2005, p.14) as respondents fail to recall key individuals in their social network at the time of undertaking the survey. By contrast, by collecting and cross-checking network data over the course of multiple interviews BOTT and her colleagues could spread the burden of such questioning for the respondents over time and reduce the potential effects of recall issues associated with collecting network data at a single moment in time. [21]

Such longitudinal qualitative approaches are by no means unproblematic, however (KÜHN & WITZEL, 2000; THOMSON & HOLLAND, 2003). Indeed, it is highly unlikely that BOTT could have employed this methodological approach (interviewing each family up to nineteen times [1971 (1957), p.21]) had she not been working with a research team given the time and resources required. Related to this, while only one family selected for the study refused to take part "on grounds of time" (p.19), given structural transformations in working hours and working arrangements for couples that have taken place in the intervening period, were this study to be replicated today it is conceivable that the time burden for participants would result in a much higher dropout rate and/or a sample skewed towards a particular demographic with the resources to take part in a study of this kind (DOUCET, 2001, p.334). In this respect, the suitability of a longitudinal interview-based study design to a given research question, or more importantly social group or setting, needs to be carefully considered. While it may work for home-based studies such as BOTT's, for research in other domains (e.g., research with children or elites) such participatory data collection may not be tenable for practical and/or ethical reasons (as acknowledged by BOTT, 1971 [1957], p.24, herself). [22]

Importantly, the data collection approach used by BOTT, as with the broader research design for the study, was affirmatively open-ended and exploratory. Thus BOTT (pp.19-21) recalls how the data collection methods initially employed by the research team (comprising unstructured "incognito interviewing" and "casual observation") proved unsatisfactory, as they rendered both the researchers and respondents anxious and uncomfortable. As BOTT (p.20) puts it, "[i]n spite of the agreement that these were friendly visits, both parties

[researchers and respondents] knew that in fact they had a quite different purpose, no matter how friendly they might become." As a result, the researchers decided to give precedence to the "information-collecting aspect of the interviews" (p.21), as opposed to more casual conversation, and in turn to devise an outline of topics to be covered in the remaining interviews. This outline incorporated both inductive and deductive components; themes that had been "talked about spontaneously" in the initial interviews as well as "additional questions we thought important" (ibid.). Once drafted this outline was shown to the respondents (p.17) and BOTT reports how "[t]wo couples said that at last they knew what we were getting at and could stop worrying" (p.21). [23]

The collection of data by BOTT and her colleagues was by no means unproblematic, however, and in fact BOTT herself draws the reader's attention to a number of key limitations. Most importantly, then, BOTT and her colleagues only formally collected data on the reported network connections of the couples involved in the study themselves. For instance, for the three families she uses "to analyze several factors that limit and shape the choices families make in the field of relationships with kin" (p.118), BOTT quantifies the total number of recognized kin for each family by kin type (intimate kin, effective kin, non-effective kin and unfamiliar kin, p.120). She does not, however, provide information on the amount of contact *between* each couple's alters (relatives, friends and so on) as this information was inadequately collected (p.50). This missing data presents serious problems for trying to calculate the density (or "connectedness" in BOTT's terms) of a given families kin network, although BOTT (pp.59 and 95) does generate a more impressionistic typology of families' networks as reported earlier. [24]

Related to this stated regret about not collecting sufficient data on alters' connections, BOTT (pp.23-24) also laments the lack of observational data she and her co-researchers were able to collect. For instance, she talks about their inability, for both practical and ethical reasons, to "follow the husband to work" (p.24). Such an approach, she argues, could have strengthened their understandings of a given "family's relationships with other people" (ibid.), and indeed such "shadowing" techniques (BELLOTTI, 2015, pp.71-72) have been used elsewhere to map connections to and between alters (MISCHE, 2008; WHYTE, 1993 [1943]). Notably, while BOTT (1971 [1957], p.226) argues that in research building on her own "[m]ore precise information should be collected on connectedness so that it could be expressed in quantitative terms," this does not lead her automatically to advocate survey methods. Rather, she expresses doubt that "one could devise a questionnaire that would elicit information of similar *completeness* and subtlety" (p.310; emphasis added) to that collected qualitatively. In this respect BOTT (p.226) states that "[i]t would be most useful to *interview* all or at least some of the members of a family's network instead of relying entirely on what the family said about them" [emphasis added]. Having said this, BOTT (pp.226 and 133) acknowledges the likely extreme practical difficulties one would face in attempting such approach (as experienced by HEATH, FULLER & JOHNSTON, 2009) and identifies asking "couples themselves more detailed and uniform questions about their relatives'

independent contacts with one another" (BOTT, 1971 [1957], p.133) as more feasible. [25]

In summary, the method deployed by BOTT is innovative in a number of ways that are still salient today. First, she argues that to achieve a fuller understanding of social networks qualitative interviews should be used, ideally supplemented by direct observations or at the very least conducted with an awareness on the part of the researcher that the interview itself is not only an opportunity to ask appropriate questions but also for participant observation (SIN, 2003, pp.310-311). More implicitly, these interviews should be conducted in a manner that embodies a core tenet of more ethnographic and situated approaches to qualitative research, namely being there and specifically *being there repeatedly over an extended period of time*. Only once the researcher has developed a rapport with the research participants should s/he ask direct questions about relations with personal contacts, although information on connectedness can also be "inferred" from other data collected over the course of fieldwork (BOTT, 1971 [1957], p.235). [26]

This longitudinal qualitative approach to research adopted by BOTT arguably yields three benefits for those seeking to produce a relational sociological account. First, by interviewing participants over time network dynamics can be captured (EMIRBAYER, 1997), though the scale of dynamics captured, and the sensitivity to network change attainable, clearly depends on both the overall duration of the interview process and the frequency of interviews within that period. Secondly, the thick accounts of behavior, attitudes, beliefs and so on afforded through in-depth interviewing provide the researcher with a rich resource for interrogating the cultural dimensions of network figuration so often lacking in network analyses (EMIRBAYER & GOODWIN, 1994, pp.1436-1446). Finally, as THOMSON and HOLLAND (2003, p.242) put it, through longitudinal qualitative research the extension of the research "relationship over time demands (even produces) a high level of reflexivity on the part of both the researchers and the researched, drawing analytical attention to the effects of the research intervention on both." If we take reflexivity as an important "confidence marker" in qualitative research (GASKELL & BAUER, 2000, p.345), then such reflexive demands can in turn be used to enhance the quality and public accountability of a given research endeavor. [27]

6. Assessing the Conditions for Innovation

In my view these innovations in data collection method are to some extent derivative of a broader methodological practice adopted by BOTT *that allowed her to innovate*. This practice, which reflects a rejection of "the prevailing [social problem-based] practice of social research in Britain until the 1950s" (SAVAGE, 2005, §9), is a staunch adherence to an exploratory approach not only to research design but also analysis. Such an approach is definitive of the discovery methodologies or heuristic techniques described by KLEINING and WITT (2001). According to them, such research strategies of discovery characteristically reject "predefined [methodological] alternatives" and are instead characterized by an

openness "to learn from the empirical 'world'" through the "search for *common patterns*" (2001, §20). BOTT is very clear about this open approach to discovery in her writing, and is at pains to describe to the reader not how the study fits a particular methodology or discipline but rather how it sits between existing research techniques (1971 [1957], pp.48-51) in a manner befitting "a field of such complexity" (p.309). BOTT even goes so far as to hint that she sees her work as using "impressionistic methods that can never be replicated" (p.310). Whether or not this is an accurate appraisal of her methodology, I argue that it is only in being open to adapting her field techniques that BOTT comes upon the potential significance of family relations to conjugal role segregation. Most importantly, it is only by being open (or "attentive," BACK & PUWAR, 2012, p.14) to the whole gamut of her data—and by this I mean to attribute data as well as to narrative data more routinely analyzed for thematic or discursive content in qualitative studies—that BOTT is able to generate her ground-breaking analysis.⁴ In thinking holistically about her data, and not just in terms of salient themes in the interview transcripts, BOTT is able to exploit the analytical possibilities of a relational sociology (EMIRBAYER, 1997) and more specifically of relational approaches to qualitative research as articulated by DESMOND (2014, p.553; also HERZ et al., 2015). [28]

Finally, it is worth stressing that the analytical edge of FSN derived from one other aspect of the study that has been mentioned so far only in passing, namely that the data was collected (and less so written-up) by an inter-disciplinary team of researchers. Against a backdrop of increasing impetus for inter-disciplinary research to meet pressing global problems (LEDFORD, 2015), debates about the value of inter-disciplinary team-based approaches specifically to ethnographic studies have gained traction in recent years (CLERKE & HOPWOOD, 2014; ERICKSON & STULL, 1998), with proponents of the approach arguing that a key advantage over the classical lone research endeavor is that the team can act "as a buffer against the outside, and often very strange, world of the field" (ERICKSON & STULL, 1998, p.55). Indeed BOTT's (1971 [1957], pp.6-51) highly reflexive account of the methodology for FSN suggests this to have been the case. More importantly, though, BOTT (pp.30-35) describes how through a series of more and less formal team discussions (including "case conferences" about each family, pp.26-27) the research team were able to "let go" (SPILLER et al., 2015, p.563) of their theoretical predispositions and inductively approach the data in a more attentive way. As BOTT (1971 [1957], p.32) puts it, "[t]hrough working together closely on very detailed analysis of three families ... [the research team] began to concentrate on interpreting the facts without bothering about whether the concepts were integrated on some abstract level or not." Critically, as part of this interpretive shift BOTT (p.33) herself moved away from a belief "that actual behavior was somehow a synthesis of personality on the one hand and a fixed, immutable social environment on the other." Instead, and in line with characteristics of more fully conceptualized relational analyses (EMIRBAYER &

4 In this respect, BOTT's work arguably resembles an analytic ethnography as defined by LOFLAND (1995), whereby the researcher takes "an exploratory, inductive approach to discovery with the goal of developing 'mini-concepts' and generic propositions through detailed coding and emergent constant comparative analysis of observational data" (SNOW, MERRILL & ANDERSON, 2003, p.186).

GOODWIN, 1994), the sociological contribution to the study moved from "mere description or 'structural determinism'" to providing "a framework for discussing *differences in the way people used familial relationships* to cope with their problems" (BOTT, 1971 [1957], p.33; emphasis added). It was by collectively working through tensions between psycho-analytic, anthropological and sociological concepts, and paying close attention to the data as a means to unravel this bind, that a relational analysis took shape. [29]

7. Implications for Qualitative Research?

Much has been made of the limitations of network surveys as means to generate valid social network data (MARSDEN, 2011). Extending this point further, I would argue that the collection of relational data is a central task for more ethnographically-oriented qualitative research. Think, for instance, of the content of William Foote WHYTE's (1993 [1943]) classic participant observation study of an urban slum, "Street Corner Society." By living alongside one particular Boston gang (the Norton Street gang) WHYTE was able to not only produce a rich account of gang life but also to map out the network of individuals that comprised the gang as well as their changing hierarchical positions. What seems clear from the data mapped by WHYTE is that he could (should these methods have been available at the time) have been able to employ SNA as part of his analytical approach. In this vein, participation in the activities, settings and everyday lives of research participants should be seen as a fruitful way to unearth relational data. This is not so much about ethnographic researchers adopting a new approach to data collection as being open to the utility of data *they are already collecting* (on the social ties of their study participants and/or networks constituent of their objects of analysis) and to using multiple, nested approaches to analyzing their data (esp. LeCOMPTE & SCHENSUL, 2013). [30]

Notwithstanding the challenges associated with longitudinal qualitative *in situ* studies, this call for more co-option of network analysis techniques in qualitative or mixed-methods studies points to another key research design issue, namely what sorts of studies (or what "object of analysis," DESMOND, 2014, p.547) might the methods elaborated here be suited to? On the one hand, the approach could be adopted for the sorts of whole-network analyses which have come to dominate network thinking among SNA writers (KNOX, SAVAGE & HARVEY, 2006). Given the labor-intensiveness of the data collection approach described above, the object of analysis for these studies would need to be relatively small scale. For instance, a study of a parochial realm object of analysis (LOFLAND, 1998, p.10-15), such as the street corner gangs studied by WHYTE (1993 [1943]), is arguably well-suited to an ethnographic approach to collecting relational data. In such a setting the researcher would likely impose an (albeit labile) network boundary (as WHYTE did for the Norton Street gang; also HEATH et al., 2009) based on their rich qualitative understanding of a given sub-cultural network. Alternatively, studies of settings with more institutionally imposed (although inherently porous) network boundaries could also employ this approach—for instance studies of workplaces (JACQUES, 1951) or educational environments (WILLIAMS, 2013). [31]

However, following directly on from BOTT's (1971 [1957]) own application of these methods to "enumerate ... relationships ... only between a given individual and his or her 'alters'" (KNOX et al., 2006, p.118), her approach would also be suited to studies exploring ego-networks (esp. CROSSLEY et al., 2015).⁵ In such applications the ethnographer can move beyond the typical foci of ethnographies (namely places or groups, DESMOND, 2014, or "putative solidarities," WELLMAN, 1979, p.1203) to explore more relational scientific objects (such as the process of conjugal role segregation in BOTT's [1971 (1957)] case). This application has many synergies with much more culturally-inflected approaches to networks (esp. EMIRBAYER & GOODWIN, 1994; KNOX et al., 2006; PACHUCKI & BREIGER, 2010) in which the multiplicity of networks in our daily lives is acknowledged, as is the culturally-constructed nature of these networks, and for which the phenomenon of "switching across network domains" (MISCHE & WHITE, 1998, p.701) becomes a core concern. In such approaches, rather than setting out to study "a whole population defined by an organizational boundary, and using network methods to assess how this population is structured, one starts from discursive unities in the form of stories to consider how far they lead to organizational boundaries" (KNOX et al., 2006, p.130). [32]

8. Concluding Remarks: Learning and Innovating From BOTT

In this article, I have sought to revisit the methodological dimensions of the early work of Elizabeth BOTT in order to flesh out the innovative relational aspects of her qualitative research practice. In light of increasing interest in qualitative and mixed-methods approaches incorporating network (KNOX et al., 2006) or relational (DESMOND, 2014) thinking, shining a light on BOTT's methods (rather than her contribution to family sociology) is informative. First, while not explicitly ethnographic, reviewing the methods used for FSN it is clear that BOTT was able to generate a powerful (albeit impressionistic) relational analysis of conjugal role segregation by virtue of the ethnographic principles implicit in the fieldwork conducted by her and her co-researchers (spending time in the field, developing a rapport with study participants, interviewing *in situ* and adopting an exploratory approach to research design). [33]

BOTT's work is by no means a flawless example of relational sociology (EMIRBAYER, 1997). Indeed, it falls foul of a number of important critiques squared at network analyses from a relational perspective, not in the least insofar as BOTT's groundbreaking hypothesis rests on the codification and reification of social relations into static network figurations (categorized as close-knit or loose-knit) that in turn come to explain conjugal roles (cf. EMIRBAYER & GOODWIN, 1994, pp.1426-1428). In this respect, the hypothesis with which her work is synonymous can arguably be read as structurally deterministic. As SAVAGE (2005, §12) puts it, FSN's "concern with developing a formal account of how networks shape intimate relationships has echoes of DURKHEIM's account of suicide." A closer reading of BOTT's analysis, however, not only hints substantively at the importance of network dynamics (EMIRBAYER, 1997, p.305-

5 Notably ego-network analysis is seen to be relatively under-explicated methodologically (CROSSLEY et al., 2015, p.2).

307), but also methodologically at how "the potential causal role of actors' beliefs, values, and normative commitments" (EMIRBAYER & GOODWIN, 1994, p.1425) in shaping and transforming social structures might be accounted for. For example, BOTT (1971 [1957], pp.95-96) is not only interested in close- and loose-knit families (and the effects of these structures on conjugal roles), but also in "transitional" families shifting between these social structures *and* the role of attitudes in shaping the outcomes of this transitioning. Thus, she describes how "[h]usbands and wives who change from a close-knit to a loose-knit network find themselves thrust into a more joint relationship without the experience or the attitudes appropriate to it" (pp.95-96) before going on to assert that "[t]he eventual outcome depends partly on the family and partly on the extent to which their new neighbours build up relationships with one another" (p.96). [34]

Elsewhere, BOTT (pp.97-113) draws on the gamut of her field data, as well as the research team's "general knowledge of urban industrialized society" (p.97), to postulate various factors affecting the social networks of the families in her study. In this relatively short chapter of her book, BOTT (p.113) concludes with a markedly fluid observation that:

"Connectedness depends on a whole complex of forces—economic ties among members of the network, type of local area, opportunities to make new social contacts, physical and social mobility, etc.—generated by the occupational and economic systems, but these forces do not always work in the same direction and they may affect different families in different ways." [35]

This observation is complemented by the definitively relational assessment that "connectedness cannot be predicted from a knowledge of situational factors alone" (ibid.). Rather, as BOTT puts it (belying her growing interests in psychoanalysis at the time), connectedness "also depends on *the family's personal response to the situations with which they are confronted, and this response depends in turn on their conscious and unconscious needs and attitudes*" (ibid.; emphasis added). In this way, and through her extensive interests in norms (pp.159-215), BOTT is clearly aware of, and *seeks to consider* (in contrast to many relational sociological works), "the influence that cultural and societal formations have upon social actors and the transformative impact that social actors, for their own part, have upon cultural and societal structures" (EMIRBAYER & GOODWIN, 1994, p.1442). [36]

In these instances, we can start to discern the benefits of a BOTT'ian approach to network analysis conducted according to the methodological strategy considered in this article. Specifically, we can see how BOTT is able to harness her rich longitudinal qualitative data to not only observe network dynamics⁶ but also to *account for these* vis-à-vis empirical understandings of cultural structures that "are ... both constraining and enabling of social action" (EMIRBAYER & GOODWIN, 1994, p.1441). Here, while BOTT's methodology is analyzed in this

6 In a similar vein, William Foote WHYTE (1993 [1943], pp.156-188) uses his ethnographic data to map the evolving social organization of the Cornerville Social and Athletic Club in his study of "Street Corner Society" in Boston.

paper primarily as a strategy for the collection of data amenable to network analysis, we get a glimpse of how a more integrated qualitative network analysis (using contextually rich qualitative data to analyze formal properties of ego-centered networks and, importantly, to help to empirically account for network *process* causes and effects) was attempted, and how, in a manner compellingly articulated by KLEINING and WITT (2001), the particular exploratory methodology adopted by BOTT afforded this. Adopting such an approach may be one means to realizing a fuller understanding of "the complexities of the theoretical interconnections among culture, agency, and social structure" (EMIRBAYER & GOODWIN, 1994, p.1426) in relational sociological studies. [37]

Building on this point, beyond the form of BOTT's data collection and analysis techniques, I have also considered the characteristics of her research practice *that allowed her to innovate*. As researchers seek to grapple with the complex and intertwined issues of an increasingly global and interconnected social world, I argue that considering this aspect of a given research process is at least as important as communicating the form of methodological innovations themselves. In this respect two interrelated facets of the fieldwork for FSN seem particularly important. First, the exploratory nature of the research endeavor reported by BOTT (1971 [1957]), and specifically the highly *attentive* orientation taken by BOTT to the whole gamut of her data including network attributes of participants, enabled a relational analysis of what was being observed to emerge. As DESMOND (2014, p.554) observes, a relational "approach to explanation enriches and expands the analytical possibilities of ethnography," and in my view the relational explanatory approach taken by BOTT (1971 [1957]) certainly underpins the analytical prowess and longevity of her work. Second, by virtue of being a study conducted by an inter-disciplinary team, the researchers were not only able to develop their analysis dialogically but were also obliged in practice to focus on the common ground of data (rather than contested theoretical traditions, SAVAGE, 2005) as they tried to progress their analysis (ANDERS & LESTER, 2015). In this way, disciplinary predispositions that could obscure the realization of creative breakthroughs (NISSANI, 1997) were kept in check. [38]

BOTT's work has innovative dimensions that are both broad (her willingness to not only design, but also see through *and* reflexively describe, an exploratory study with clear analytic outcomes, in the form of hypotheses) and specific (her openness to interpreting her field data not only for themes salient in interview transcripts and field notes but also as a source of attribute data for, in this case relational, analysis) that I hope researchers can draw on. In FSN she aims beyond a descriptive account of the roles, norms and behavior of a sample of London families and the results of this approach, and the continuing influence of her work, speak for themselves. Despite being over 60 years old, the study demonstrates how personal or ego-centric networks can be explored and analyzed using qualitative research techniques and indicates the synergies between sustained qualitative data collection and the generation of data amenable to network analysis. More than this, however, BOTT's work reveals how a truly open, exploratory orientation to qualitative fieldwork can yield transformational breakthroughs. [39]

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