Ethnomethodologically Informed Ethnography

- David Martin
  - *Computing Department Lancaster University*
  - *d.b.martin@lancaster.ac.uk*

Research Method: Close encounters with difficult words - ethnomethodologically informed ethnography

- ***'any group of persons - prisoners, primitives, pilots or patients - develop a life of their own that becomes meaningful, reasonable and normal once you get close to it, and .. a good way to learn about any of these worlds is to submit oneself in the company of the members to the daily round of petty contingencies to which they are subject.'*** **(Goffman, 1961: ix)**

Ethnographic Practice.

- Ethnography has a long history - a naturalistic method - origins in social anthropology - investigating phenomena of everyday life
- Ethnography may or may not be a method - may be too diverse a set of practices to be described as a method
- it most certainly is NOT a methodology.
  - Contains no theoretical or conceptual injunctions.
  - Has been used in support of (at least) Marxist, Feminist, Structuralist, Ethnomethodological purposes.
- emphasis on describing the social activities of work - providing 'thick descriptions' - Wittgenstein - 'don't think but look'
  what is a day's work like?how do the activities of work get done as someone's work?
  innocent/naive; relatively unobtrusive;heavily descriptive

The study of work-in-organizations.

- Ethnography and the social analysis of 'work'
  - starts from the assumption that human activities are socially organised
  - committed to inquiring into patterns of interaction and collaboration.
  - relies on an observer going into the field and 'learning the ropes' through questioning, listening, watching, talking, etc., with practitioners.

The basic principles 1. Ethnography is naturalistic..

- studies should be studies of real people and their activities, operating in their natural environment
- refuses to deal with artificial environments and controlled versions of work
- Michael Lynch: "Stop talking about science. Go to a laboratory- any laboratory will do- hang around a while, listen to conversations, watch the technicians at work, ask them to explain what they are doing, read their notes, observe what they say when they examine the data, and watch how they move equipment around ..."

The basic principles:2. Ethnography is prolonged.

- no logical reason why an ethnography should take a long time
- some *practical* reasons:
- The main reasons for prolongation
  - ethnographers have no clear idea what they will find
  - domain may be technical
  - focus may change

The basic principles 3. Ethnography understands the world from the point of view of those who inhabit it.

- it is behavioural- interested in the detail of the behaviour to a greater or lesser extent-
- it is not behaviourist- it does not consider the behaviour itself as the appropriate level of analysis.
- The appropriate level is the significance of the behaviour for those who undertake it.

The basic principles 4. Ethnographic data is eclectic.

- -resists formalisation.
- -can include general descriptions of behaviours, descriptions of physical layouts, close descriptions of conversation, thoughts and feelings, work sequences, anecdotes, speculations, tentative hypotheses, examples, repeated occurences, and so on.
- -difficult to distill data down to an 'essential' form, and analysis is thus critical.

Examples of data

- descriptions of conversation and movement, ‘stories’, opinions, anything!
- granularity issues. Interaction/Conversation Analysis v. ‘Studies of work’
- Ethnographies often organised as descriptions of the various ways in which participants organise their work/activity – part of which involves interaction with technologies
- The ethnographer often provides vignettes as 'examples' of certain activities.

Ethnomethodology

- ***‘to treat practical activities, practical circumstances, and practical .. reasoning as topics of empirical study, and by paying to the most commonplace activities of daily life the attention usually accorded extraordinary events, seeks to learn about them as phenomena in their own right’*** **(Garfinkel 1967)**

Ethnomethodology

- "That's a funny kind of thing, in which each new object becomes the occasion for seeing again what we see anywhere; for example, seeing people's nastinesses or goodnesses, when they do this initially technical job of talking over the phone. The technical apparatus is, then, being made at home with the rest of our world. And that's a thing that's routinely being done, and it's the source for the failures of technocratic dreams, that if only we introduced some fantastic new communication machine the world will be transformed. Where what happens is that the object is made at home in the world that has whatever organisation it already has." Harvey Sacks (1972)

What is ethnomethodology?

- Lit: 'The methodology of people'- members methods - 1960's California - Garfinkel
- How do people show how they orient to each other in interaction
- **A brief history of 'ethno' studies**
- 1960s - early studies
  - H. Garfinkel (1967); H. Sacks (1992)
- 1970s - development of research areas
  - e.g. 'conversation analysis'
- 1980s - Ethno studies of work
- 1990s - technological workplaces
- 2000s - domestic environments..

Ethnomethodology

- Ethnomethodology - takes seriously the great question of Sociology - 'how does social life get organised?'
- Ethnomethodology = data driven Sociology
- Ethnomethodology refuses to theorise - it has no work for theories to do.
  - an ‘unmotivated’ approach to the witnessable and varied activities .

Ethnomethodology:

- interested in the 'common sense' categories that members themselves deploy, rather than sociological categories
  - it treats all social situations as the accomplishment of members.
  - -interested in the processual character of work.
- not interested in the truth of members' claims, but in how they arrive at those claims. It treats accounts as versions.
- it focuses on how people actually order their working activities through mutual attentiveness to what has to be done.
- It presumes no SITE for the study of the phenomenon in question.
  - ‘work’ and work

Ethnomethodologically Informed Ethnography

- Not '**why** a current system is not working', but, '**how** it is working'.
- Understanding local rationales for 'doing work' - 'unique adequacy'
- Analytic stance is concerned with the 'sense making machinery' by which individuals can organise the distribution of individual tasks into an ongoing assemblage of activities within the 'working division of labour'.
- Other approaches - Use methods which gloss data; 'Miss something' in generating requirements
- "**That missing 'thing' is the 'real world, real time' practices whereby [work] processes are produced and, thus, the actual work that systems must support and transform if they are 'resonate' with the practical circumstances of their use." (Hughes et al., 1998)**

Sensitizing concepts.

- Ecology of the workplace
- Egological Organization
  - 'what must I do next'; 'what do I need to know'; 'where can I find out'
- Flow of work not Workflow
  - difference between idealised conceptions and actual practices
- Skilful working
  - identifying rather than presuming 'skills'
  - local knowledge - 'Mavis'
- The Social Organization of work
  - attentiveness to others

The Practicalities of Ethnographic Analysis: - "selling ethnography".

- "What are you here for?...To make us redundant?" A Bank Employee.

- Individuals and 'organisations' have a range of ideas and expectations (and fears) about ethnography
- some are sophisticated - others are exaggerated
  - having unrealistically high expectations of the approach
  - or having unreasonable fears about the method as simply another form of 'time and motion' study
- Both of these ideas need to be addressed

The possibilities and limitations of ethnography.

- What ethnography cannot do.
- False Expectations
  - 'Is that all then' - over-expectations as to how much ethnography can find out in the time available.
  - 'Well, we knew that' - false expectations as to the kind of information that fieldwork can reveal, and complaints that it does not provide blinding insights into the organisation of work.
  - 'Tell me what to build' - false expectation that fieldwork can provide direct answers to design problems.

‘Practical’ Matters - Ethnographic Procedure

- do not read methodology books
  - Ethnography is not an esoteric procedure nor is it searching for things that are hard to find.
- hanging around is not the point
  - while much of ethnography does involve ‘hanging around’ this is not its point but a means of achieving the objective of uncovering the sociality of work.
- **shut up and listen - “Don’t think but look’**

The practical problems of ethnographic inquiries

- Access
  - getting in is the start of the access problem.
  - -gatekeepers can prevent access. some areas might be regarded as ‘sacred’ and off limits to the observer.
  - The observer might be associated with ‘vested’ interests.
  - Ethnographers must gain acceptability- openness and honesty; demeanour, showing respect.
  - gain credibility may include working the shifts, sharing conditions, sharing dress codes
  - The reverse gatekeeper function

The role of the fieldworker

- strategies range from:
  - full participation
- to:
  - the ‘incompetent’- licensed to ask naive questions and, thus, explore much of what is tacit to the experienced member.
- dangers
  - 'don't frighten the horses.'
  - ‘going native’.

Focus of the study

- a choice between the ‘innocent’ ethnography and the ‘informed’.
- How theoretically, strategically, etc informed should you be at the outset?
- Our choice is progression from one to the other.

What does the fieldworker collect by way of data?

- Data collection is the least of the problems of ethnography.
- The information is, very often, laying around in plain sight but no one has bothered to collect it up.
- There is nothing special to look for, nothing to find that is hidden.
- **an illustrative list of the sorts of things that can be collected and recorded:**
  - **conversations; descriptions of activities**
  - **diagrams of places; descriptions of places**
  - **rough sociograms of who talks to whom and when**
  - **jokes; interviews; job descriptions**
  - **memos, notices, graffiti**
  - **happenings; transcripts of meetings; forms**
  - **war stories**

'Doing' Ethnography

- Beginning fieldwork
  - ***"You arrive, tape recorder in hand, with a grin rigidly planted on your face. You probably realise that you have no idea how your grin is being interpreted, so you stop and nervously attempt a relaxed pose. Then you realise you have no idea how that is being interpreted. Soon you work yourself into the paralysis of the psychiatrist in the strip joint - she knows she can't react, but she knows she can't not react. It is little wonder that sometimes people hide in a hotel room and read mysteries."*** (Agar 1980)
- the initial phase of an organisational ethnography is one of familiarising oneself with that organisation
  - characterised by the frantic collection of every piece of information that the ethnographer is exposed to; make notes on everything that you see and hear, on what you're told directly and on what you hear on the other side of the room; sketch plans of office spaces and desktops; glance at official documents and scribbled notes; tape record anything that you can.
- start anywhere you can

Duration of the Study

- When is enough enough?
- the effective ethnographer can grasp key aspects in a relatively short time
  - some aspects of the work may not be routine but exceptional.
  - Knowing what problems occur, how frequently, and what their significance is, how they are dealt with and with what degree of 'competence' can provide very useful information.
- There are no self-evident completeness rules
  - a. the flattening of the learning curve
  - b. Knowing what you don't know.

Ethnomethodologically Informed Ethnography for Systems Design

•Assists in avoiding the type of mistakes that happen in design when designers have an incomplete, overly abstract and rationalised, or mistaken understanding of how activity is currently organised in that setting

•Goes beyond data and entities – how the activities of personnel produce and distribute data, and how data is made meaningful in the hands of people

•Some examples:

Healthcare

Control Room Studies

Banking

Healthcare

…. usual idealistic visions

"The maturation of the information technology revolution in the 1990s has transformed the work process, introducing new forms of social and technical division of labour. …. By the mid-1990s the new informational paradigm, associated with the emergence of the network enterprise, is well in place and set for its unfolding" (Castells 1996: 240).

… but what of the reality?

The NHS and Information Technology

- NHS experiencing enormous growth in the deployment of ICTs
- *"We certainly use IT as an explicit catalyst for organisational change, especially the design of working practices"* (in Doherty *et al.* (1999)
- intended to provide major benefits in direct support of patient care; in reporting, organising and locating clinical information; in coordinating and managing patient healthcare; in cost reduction; and in organizational integration
- challenge for the NHS - using information systems to organise, store and present health information for effective health-related decision-making

EPR Deployment at Preston

- North England NHS Trust
  - 3 Hospitals (one about to close)
- Phase 1 on 3 phase comprehensive EPR project
  - Phase 1 – 'go-live' 23rd June(ish): core administrative system and connected reporting system, A & E, theatres, order communications, pathology systems
  - Phase 2: documenting care (medical records), GP access
  - Phase 3: clinical pathways, electronic drug prescription
- Delivered as a PPP (public private partnership)
- 8.3 million pound 9 year contract with US company
- Core administrative/reporting system incorporates various clinical applications and is integrated with legacy systems
- Paired US/UK implementation analysts

Formal Management Tools

- Formal project management tools
  - The 'contract' – the formal, legal stipulation of work & responsibilities
  - Planning and phasing
    - All phases are planned in advance in terms of what they consist of and when they will take place
    - Procurement, award and signing of contract, 'data collection', 'database build and configuration', 'application testing', 'integration testing', 'go-live and transition management'
  - Methodic handling of tasks
    - keeping the agenda of tasks
    - ordering, sequencing, distribution/allocation, managing and keeping track
    - issues and risks logs
- Formal management tools differ in their degree of specification and can be open to dispute, negotiation and re-specification
  - E.g. phases may be delayed, tasks re-allocated, items of contract may be negotiated, argued over or more clearly defined
- They are a key resource for the on-going practical management of the project – aiding the distribution and coordination of work, allocating responsibilities, keeping track of activities, measuring work progress

Practical Management

- Within an organisational and political environment that threatens to overwhelm the project.
- Our focus is on the everyday work of the project, of the routine concerns of addressing organisational contingencies and constraints
- Understanding 'hidden' project work help us understand why projects lead to **compromise** solutions
- The job of Project Manager
  - Trust appointed, nursing background, some technical expertise
  - Responsibilities for information provision and distribution, and coordinating activities amongst internal teams and with the system provider
- Implementation Team Meetings
  - Fairly technical in nature
  - **Attendees:** project manager, implementation team analysts, programme support, trainers, US analysts by teleconference
  - **Basic structure:** go through previous minutes, catch-up on progress, issues and concerns, then teleconference to discuss matters with US analysts
  - Project activities are reported, discussed, negotiated, planned, and decisions made.

Uses of The Contract

- The contract is 'binding' but can be ambiguous/out of date
- (Re)specifying responsibilities
  - *"…you can bet that he went back and checked on the contract right away and he was the one who actually pointed out to me that it was in the contract so uh he was going to speed this through*
- Fulfilling obligations - covering your bases
  - *"And if I can just ask everyone to keep doing that I think we have to be very pro-active and keep emailing your analyst and say what do you want me to work on what d'you want me to do ..-I'm getting nervous for a variety of reasons .. I'm just not sure what they're going to throw back at me .. just want to make sure we're .. covering our bases as well…"*
- Finding flexibility within contractual limits (organisational acumen, Bittner)
  - *"…its important that we are getting the things that we require within the contractual limitations and y'know I understand that we have to work within that but if also within that we need to make sure we are getting what we require"*
- Contractual ambiguities arise over the definition of actions
  - *"…the expectation has always been that well we would **participate** in configuration it was on the understanding that they would be **directing** that configuration"*

Slippage and Contingency Plans

- Slippage is a ‘normal, natural trouble’
- The magnitude of the problem is measured against the schedule
  - *“…there was fifty three days where we were looking at database configuration and I’ve said that now there’s… twenty eight days left before um twenty eight business days left before we uh are its in the plan its identified that we’re going to start testing, we’ve not done any configuration”*
- Contingency plans are made by discussing implications and possible solutions
- A key consideration is the impact on the ‘end user’
  - *“…it may be that we’ll we’ll have to go with the idea that they don’t interface in phase one…… but we’ll carry on in discussing it um, further just to sort of look at all of the implications around it …. but in term of the scope of the overall project I think there’s ways we can get around it without making….too much of an impact on the end user”*
- But… solutions often involve workarounds
  - *“…we need to start thinking about .hhh how we would deal with that if-if we can’t get Telepath linked um, we just need to start thinking what are our options whether people continue ordering micro on um paper of whether we have um ordering it in uhm electronically and just that uh Telepath pulls off the orders, from the system”*

Escalating Problems

- Problems occur all the time so must be managed
- There is a process for escalating problems
  - *“In some of the escalation process stuff um I-I try and do everything as a staged process …and I do try and keep things away as much as possible so that you’re not having to get involved in the in the fight part so to speak”*
- There are ordered ‘issues’ and ‘risks’ logs
- Issues become risks when they are deemed to be a threat to the planned delivery of the system
  - *“..its already on the Risk, Log we uhm probably up the risk number at this stage cos its obviously increased in possibility or likelihood”*
- When problems cannot be readily solved between analysts they are removed from the discussions
  - *“I’m trying to as much as possible keep the grappling over this with YCo. at the level of me because I don’t want to impair your working relationships with your analysts”*
- The logs (particularly the risk log) are used as a means of escalating the problem to be dealt with at a higher organisational level
  - *“I have said I wanted the data to be issues at the risk log now because I I said this delay and um the direction so so um not not that I want anyone to get into an argument with them during the conference call but just so you do know I have escalated this one because I am very concerned”*

Keeping Track of Issues

- Issues are managed through conversation and the use of documentation (schedules, logs, meeting minutes)
  - *"I think we just raise it so that its minuted that we've raise it see what their response is.."*
- Items can fall off the agenda causing problems
  - *"I'm worried that this one has fallen through the cracks"*
- Through no fault of your own as others let you down
  - *"..it was identified that this should be in place by June so we thought we were merrily, things were progressing the way they should but now the last information that we received, contradicted that so-so I'm going to start ah doing some phoning today then a-and see what we can do…"*
- And problems may return
  - *"No I think that's a real concern and as I've said I have raised it earlier and have actually added it to the issues log earlier and we have got some movement then but we're still we're we had some creep back"*
- This (of course) has an impact on the 'quality' and timeliness of the system delivered

Inter-Organisational Work

- 'Characterised by on-going negotiations about tasks and responsibilities
- Substantial on-going effort to coordinate work across a diverse inter-organisational teams across sites and time-zones
- Working out relationships between organisations
  - *"And its not like we're putting pressure on the, the people that can do it and that's the difficulty because our, in a sense our thing is with, ** the XCo. manager and theirs is with YCo.* (the EPR supplier)*"*
- …involves learning how they are structured
  - *I've got the numbers to start phoning myself and trying to pursue it we-we're a bit in a situation where we're at the mercy of …. different organisations because it-its XCo. really w-with ZCo. a-and so we're trying to liaise through various layers of people to try and get this to move on"*
- … and (of course!) their failings can be your problems
  - *"it is our issue but its not i-its not us holding it up on this one a-and so but I but it will not be seen that way in the Trust they'll see it as the EPR not meeting a target"*

Designing for Users

- Based on understanding of current *procedures* but no 'room' for systematic understanding of work *practice*
- User involvement as expert/super users
  - Involved in specifying current configuration and procedure
  - Envisaged that testing will highlight human factors problems
- Participation is varied and contingent
  - The pathology analyst has worked to develop systems with users for a long time..
    - *"..if there's no way to get the information, from the microbiology system into* (the EPR) *then people will still have to go to multiple places to get the information they want and that defeats the object* (of the project)"
  - In other areas the analysts are new to the hospital/ healthcare
  - In some areas it is difficult to detail current process and practice
  - Identifying what the problem is and how to solve it can be difficult with piecemeal documentation of current practice
    - An issue for training, design, or 'change management'?
    - Human factors issues *necessarily* have lower priority than technical concerns
  - Providing local solutions while satisfying integration requirements for generic models is tricky
    - E.g. difficulties are caused by *diverse user groups*, and *system* and *NHS constraints*

Discussion I: 'Satisficing'

- Design as the best compromises given the circumstances
- Design in a NHS Trust is a particularly complex, messy business
  - Integration and configuration are particularly problematic
    - Problems in specifying current processes and how they should integrate
    - Issues around access to documentation, staff, expertise
    - Balancing local and generic requirements
    - Relationship to modernisation and other projects/initiatives?
  - Design not systematic in terms of approach, participation etc.
  - Problems with design concurrency and phasing
  - How do you achieve an agreed upon solution?
  - Constantly changing premises for design
- NHS Environment
  - Characterised by upheaval and changing circumstances, policies, governments
    - Need for 'future proof' systems
  - Recent change from local (Trust-based) procurement to NSP's/LSP's
- Complex inter organisational environment
  - Different providers for core system, legacy applications (e.g. pathology) and middleware
  - Reliance on many providers with different production schedules and new relationships adds complexity to working relations

Discussion II

- Focus (Clinical, administrative, reporting)
  - Tensions (professional and design related) exist between different user groups so need for balance
    - Different work oriented perspectives on same patient
    - Internal bidding leads to perceived inequalities in service provision
    - Difficult to serve all groups without compromising all
  - Government and public desire for transparency, league tables etc. places a strong reporting focus on the EPR
    - *"because the reports we hand into the NHS are crucial to our funding, as a as a Trust and obviously we have to get the reporting right and and eh there's a huge risk um to the Trust because we're going live six weeks before the end of year"*
    - Need for MI focused organisational acumen to understand how to produce figures that paint the Trust in the best light within the 'rules' of production for those figures ('the gambit of compliance', Bittner)
- Conclusion: Requirement for (1) regulatory changes, (2) organisational changes and (3) new design methods/techniques
  - To help deal with the outlined problems of (a) configuration/integration (b) participation (c) concurrency (d) movement between design phases (e) changing premises of design
  - Due to time, resource and fiscal pressures the *'domestication'* or *'evolution'* process is likely to be crucial

Control Room Studies

- Air traffic control (Hughes et al.), london underground (Heath and Luff) ambulance control (Martin and Bowers)
- Multi-media field sites *par excellence*
  - Close knit, collocated teams working with a variety of computer and paper-based technologies
  - 'Tight' coordination of activities
  - Use of subtle interactional 'cues' – overseeing/hearing, gestures etc.
  - Practices and the arrangement of settings (ecology) evolved to achieve work 'economically' and 'dependably'
  - E.g. announcer and controller in LU, or the flight strips in ATC
- Issues for workplace and technology re-design
  - Replacing paper technologies – automation?
  - Distributed working and cooperative systems?

Banking

- Re-organisation of banking through technologies, telephone banking and new technologies, Rouncefield, Bowers, Martin
- How do you support personalised service and continuity of service from remote centres?
- Technology use in telephone banking – study of phone call transcripts
  - System as third party in interaction, how and when should it be visible?
  - The new 'selling' front end – did not support the practices that could make the sales approach 'sensible'
  - Telephone banking versus banking by videoconferencing – professionalism and demeanour work
  - Designing an internet banking application to support the everyday financial reasoning exhibited in the talk of customers
    - E.g. grouping of activities, sorting of accounts, reassurance and explanations

But what of cool stuff?

- If you want to support an existing type of activity with innovative technology it is useful to find out how that activity is currently organised – remember the Sacks quote on technology being made at home in our world.
- Okay – so technology is transformative – but we bring our current skills, abilities and practices to new technology and adapt them (…and the technology)
- When you have a new technology that was not designed for a particular activity or one that is particularly transformative why not study people using it or playing with it using ethno sensibilities to feed back into design as part of an iterative process?
  - E.g. see Andy Crabtree's work http://www.mrl.nott.ac.uk/~axc/
  - Or equator http://machen.mrl.nott.ac.uk/home.html

Websites & Books

- **Fieldwork Methods, some introductory materials on:**
  - http://www.teamethno-online.org/
- **Patterns of Interaction**
  - http://www.comp.lancs.ac.uk/computing/research/cseg/projects/pointer/patterns.html
- **Papers available on dept. website**
  - http://www.comp.lancs.ac.uk/research/publications.html
  - Look for authors Mark Rouncefield, John Hughes, Karen Clarke and myself

- Crabtree, A. (2003) *Designing Collaborative Systems: A Practical Guide to Ethnography*. London: Springer-Verlag
- Luff, P., Hindmarsh, J. and Heath, C. C. (eds.) (2000) *Workplace Studies: Recovering work practice and informing system design.* Cambridge: CUP
- Suchman, L. (1987) *Plans and Situated Actions*. 1987, Cambridge: CUP