Diagnostic Work in Poisons Advising – "Is there anything I need to worry about?"

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Introduction

> '"Calls" are best described as ongoing and developing sequences of action, actions that get formed up into organizational events' ([12] p.188)

This paper seeks to answer the question 'How is information oriented to by healthcare professionals?' By 'healthcare professionals' we mean both advisors and those seeking advice. We want to argue that advising and being advised are thoroughgoingly social in character and that what we see is not simply the reading of information to a healthcare professional who thereby understands what must be done. We want to focus on the notion of 'doing advising' – we use the word 'doing' as we attend to the situated practices of advising in terms of the uses of information by advisers and in terms of speech exchanges between advisers and callers. Attending to 'doing advising' highlights advice as a practical members' achievement, an artful accomplishment co-operatively undertaken in real time.

Poisons Advising in the UK

Unlike, for example, in North America or Sweden (cf [2,5]), advice on the management of accidental or deliberate ingestion of toxic substances or overdoses of substances is not given to members of the public: in the UK such inquiries are managed through healthcare professionals. For example, a patient may present at their general practitioner's office or the local hospital emergency room; parents, relatives, carers and so forth may telephone NHSDirect/24 to inquire about substance ingestion: in all these cases, advice on management will be given either to or through a healthcare professional. Information Officers (IOs) have an array of persons and artefacts that can be drawn on in giving advice: we show how these are employed *in vivo* to do advising. Poisons advice for healthcare professionals in the UK is delivered in the following ways:

TOXBASE: a web-based database of poisons data that contains information on substances, their toxicity and management strategies for healthcare professionals treating patients

A network of poisons information centres: located throughout the UK to which phone calls can be made if further information is required or if information cannot be found on TOXBASE

We focus here on the work of IOs in the Scottish Poisons Information Bureau (SPIB).

Methodology

The data presented in this paper was collected as a part of the EPSRC 'Ideal' project – a collaboration between the Universities of Lancaster and Edinburgh[1]. A central component of 'Ideal' was the design of what we have come to call 'work affording' systems, i.e. systems that are designed on the basis of what persons know and use in and as a part of their work as opposed to something that requires reconfiguration of that work because of new systems. The study focussed on the day-to-day practical activities of information-giving in a mental health advice service (Lancaster) and a poisons information service (Edinburgh). In both settings, out data collection was undertaken under the rubric of ethnomethodologically informed ethnography. Ethnomethodologically-informed ethnographic studies of work practices (e.g. [**Error! Reference source not found.**]) focus on the specific and detailed organisation of activities, explicating the 'seen-but-unnoticed' practical achievement of the organisations' work.

The data on which the current paper draws was collected during a six month observation of the work of a poisons information centre, and a corpus (~100) of tape recorded calls. Calls were transcribed in detail so as to focus on the interactional accomplishment of information and advice-giving and where possible calls were video recorded in order to observe what information was accessed at particular points in the course of the call.

The Scope of the Paper

In our previous papers on calls to poisons information centre, referees and questioners – notably those from medicine – have asked us about the 'typicality' of the transcripts presented. They further suggested to us that a quantitative analysis of calls – notably caller types, call openings and problem formulations – would secure our arguments. In other words, knowing how many doctors, nurses etc call, constructing a typology of call openings and problem formulations and so on would, as one referee put it 'move the argument beyond simply describing'. The notion that we are presenting some general picture of toxicology advising is at the heart of our questioners concerns and, we contend, misunderstands what we aim to do. In their paper on 'talk and police work', Sharrock and Watson answer a similar objection stating that:

> 'We are well aware that the kind of inquiry we are conducting here can meet with questions about the possibility of making inferences from a few fragments of data. How can anyone, on the strength of a handful of telephone calls and a couple of homicide investigations, propose to say what police work in general is like? How does one know that what one finds in these fragments is in any way typical or representative?'
>
> We should have to agree that such questions were cogently asked if it were, indeed, our concern to come up with some characterisation of police work in general (. . .) but, fortunately, since that is not our objective, we do not feel the need to satisfy such queries. The object of *our* inquiries is to analyse the data that we have at hand, to see - first of all – what the data consists in, what activities comprise it, and *then*, when all the data is analysed, we can turn to the

[1]The study on which the present paper is based was funded by the EPSRC, grant number GR/86683/01.

question, "What problem could that data be used to pose and solve?" ([10], pp. 434-5)

This is perhaps the most eloquent formulation of our questioners problems and a response to it. It seems to us that our questioners have asked us to address a problem that we do not seek to address – namely the provision of a general account of the work of a poisons information service. Our considerations are driven by the question of what we can learn from the data as opposed to setting up the data to answer questions about the nature of the work involved[2]. To state it clearly, the present paper is driven by the question 'What can we learn about toxicology advising from this data?'

Before continuing, we would like to address one other aspect of this urge to 'typicality' or statistically underpinned describable generality, namely the achievement of 'typicality' as a members' phenomenon exhibited in and as a part of the everyday work of toxicology advising. That is, our data show how what Sharrock and Watson call 'members' orientations to typicality and standardisation and their accomplishment in and through talk' ([10] p. 436). Issues that questioners see as external to the transcripts (and as problems for the kinds of analysis we do) ignore the internal achievement of regularity and so on as a members' achievement. There is, then, no need to undertake some form of statistical analysis since, as Schegloff points out, the attribution of statistical significance to data is 'but one form of significance'[8]and that something occurs *n* times within or across a particular instance or corpus of data may or may not have significance *for the participants to the interaction(s)*. To be sure there are arguments that can be made as to the need to look at occurrences of particular phenomenon over the corpus, but as Schegloff [8] points out, because one can do a quantitative analysis does not mean one must do so – there has to be a pay off. Our pay off is located in the explication of the *in vivo* work of advice giving as an interactional accomplishment.

Formulating a 'Reason for Calling'

Extract One[3]

A: Hello _____ poisons can I help you?

B: Hello muh names _____ I'm one of the ess aich oh's at _____ A an E in ____[___]=

A: [hhi]

B: =could you tell me whether there's anything we need to worry about (.) in a little (.) kiddie that's (.) drank (.) an unknown quantity of compact disc cleaning fluid=

A: =right hhh ok

(….)

[2] We should note that often these questions are raised as prefatory to considerations as to how the service might be redesigned or to some comments as to the effectiveness of the advice giving. Given our stance on information systems design (cite co-realisation here) and given that we are not experts in toxicology advising, we do not feel minded to accept these points either.

[3] In these and subsequent extracts, we want to attend to 'the range of contingencies open at various points in the development of the activity (to understand) both what sort of achievement an "uneventful" joint production of this episode is, and how a sense of its routine character is fostered' ([9], p. 148)

A: how old's your patient?

B: errrm its a toddler (.) I've just had a phone call from a (.) worried mum

Extract Two

A: hello _____ poisons can I help you?=

B: =hello yes, it's sister here at _____ I wonder if you could give me a wee bit of advice I've got a fifteen month old baby he's fine he's well he's no frothing at the mouth he's no vomiting nothing

Extract Three

A: _____ poisons information bureau=

B: =Hello, I just wonder (.) my names' _____ one of the GPs at _____? it's just uhhm I had a mother on the phone asking about a two and a half year old that had taken probably errm or maximum three aspirin but probably one or two aspirin three hundred milligram and that was twenty four hours ago and the child's been absolutely fine since

(.)

A: mmhmm=

B: =I'd just wondering whether we should do anything about it

We see that in the first case the caller formulates their reason for calling, asking "if there is anything we need to worry about" as well as giving their source of information; in the second asks for advice and gives a candidate set of symptoms; and in the third again we see both the basis for information, maximum dose and candidate description of symptoms. Information requests have within them an orientation to what the IO might be expected to need to know. Indeed caller's opening utterances might be thought of as 'recipient designed' to give callers' professional status, ingestion information and thus to exhibit the call worthiness of the call: that is, they set out the information required for IO to provide an appropriate response and to secure the call as a poisons call.

We want first to look at the initial turns in which the IO and caller identify themselves. These turns serve, as Lanqvist [5] notes, to give the call a formal footing [3]. The call is not between friends, nor is it a citizen call to an institution (such as the calls to police analysed by Whalen and Zimmerman [15,16]) – the call is between two healthcare professionals. Callers identify themselves not only by names but also by categorial incumbencies and location, establishing themselves as *bona fide* callers for information. The turn following IO's identification is, as Whalen and Zimmerman [15] point out, 'reduced' – unlike other types of calls discussed by Schegloff [9] we find that the callers' turn is devoted to the delivery of the reason for the call.

One important element is to identify the caller as a ratified recipient of advice. This self-identification is, as Zimmerman [18,19] points out, important in terms of 'alignment' – that this is a poisons information centre and that the person calling is a clinician calling about matters on which the centre is able to advise. As Zimmerman notes:

> ‘The initial alignment of situated identities (. .) projects a framework within which structurally relevant understandings of subsequent utterances can be achieved’ ([17] p. 211)

Some ‘deviant cases’ might serve to illustrate what we mean here. Consider the following calls:

(From fieldnotes)

A: _____ poisons information

B: hello, yes, I need some information about a child who has swallowed some surface cleaner, antibacterial surface cleaner, it says on the side to call the (reading the initials) NPIS

A: that’s us

B: oh, right, can you give me some information

A: what hospital are you at

B: oh yes, sorry, it’s Doctor _____ at _____ surgery here

The caller does not identify themselves in the opening sequence and, it might be said, indicates that they are unsure if they are speaking to a ratified receiver of their call for information. The caller indicates that they have found the number for the poisons information line on a product and calls the centre by its initials. This is followed by a confirmation from IO that the NPIS is ‘us’. The caller treats this as a signal to ask for information, but the IO orients towards the lack of self identification by asking about the location of the caller. Caller then ‘repairs’ this lack of identification, apologising and stating name and location. The call then proceeds as other calls.

Another call illustrates the problems of identifying the caller as an appropriate recipient of advice:

(From fieldnotes)

A: Hello _____ poisons, can I help you?

B: Yes, I wonder if you can, if you can give me some information, I was told to call this number, I need some advice on

A: Are you a doctor or a nurse?

B: Uhhh, no, I was told to call this number, to get some advice on

A: I’m sorry, we only deal with doctors and people like that, not with members of the public, sorry

B: Ahhh, sorry, I was told to call you about

A: no, sorry, we don’t deal with members of the public, you need to get your GP to call us, sorry

B: right

(Ends)

Again the categorial incumbency of the caller is questioned prior to the delivery of advice. The caller does not provide the appropriate self identification in their opening turn and the IO orients to this, asking for callers status. When the caller confirms that they are not a clinician, the IO states that information can only be given to clinicians and suggests that the caller call their GP: the caller has an appropriate question for the organisation but is not an appropriate questioner. We can see in both the above calls

that the IO does not align themselves as a ratified troubles recipient [4]; instead of undertaking the work we saw in the first set of calls, the issue is to ensure that the caller is a *bone fide* service user and not to provide the service before this is ascertained.

In one other variant, a 'ratified recipient' caller (a pharmacist) made a call to the poisons information centre about a substance ingestion (an 'organisationally relevant' question) but, when it emerged that the caller was calling about a member of their own family, the IO informed the caller that they could not deal with the call and that the caller must call their own GP or triage service. One of the IOs later noted that they were annoyed about the call since 'it's about their [family member] and they've got to call their GP, I would even if it was my [family member]': the categorial incumbency was regarded as 'unfairly' used. Returning to alignment, in line with Zimmerman [18,19] we might say that the alignment built up during the course of the call is subject to revision and what we see in the three cases here is the revision of this alignment.

(I want to expand this section to look a little more at alignment – especially to discuss the way that the opening of the call anticipates the calls' trajectory [18,19] and to unpack a little further the uses of identifiers within the calls)

Having given some idea of the issues around the opening of a call, we want to move on to look at what we have called 'advisings' work', at the practical accomplishment of 'doing advising'.

Doing Advising

As Whalen et al note 'a hearably competent call':

> 'is organised through an improvisational choreography of action involving not only the turn-by-turn interchange (. . .) but also the concurrent – and markedly artful – utilisation of a variety of tools and artefacts' ([14], p. 241)

We have said that advice-giving is a thoroughgoingly practical, situated accomplishment – in what follows we want to demonstrate how this is undertaken by analysis of another call for information. We will attend to the speech exchanges and also to the use of information artefacts such as databases and record keeping systems[4].

[Dettol]

A: hello↑_____ poisons can[I help you?

B: [what it is (.)one of uh (.) its _____ surgery at _____ here one of our doctors would like to have a word with you[that's=

A: [okay

B: =doctor _____=

A: = okay=

B: =can you tell me what number do we dial? (.) I've come through the _____infirmary but can we get you direct?=

A: =yes↑ the numbers zero eight seven zero

[4] Since we are unable to present a video record of this call here, we have used a modified transcription which attends to the speech exchanges and the use of databases etc *in vivo*.

B: º zero (.)eight (.) seven (.) zero º (.) aha=

A: = four hundred=

B: =aha=

A: =six three double one=

B: =six three double one [I'll ring doctor _____ now okay?

A: [yup

IO brings up the call logging system

A: thank you

IO Begins to write on notepad |

C: hello its doctor _____ it's an a one year old child that's swo↑ well probably didn't take too much but its dettol direct floor cleaner=

| Stops writing

A:=right

((call recording permission requested))

| IO Types 'dettol' into TOXBASE screen

A: so it's a one year old girl and it's a dettol=

C:=detto (.) its called dettol antibacterial direct floor cleaner=

Information appears on IO Screen clicks on first link

A: =<u>right</u> I've got some (.) dettol antibacterial <u>cleansers</u> and liquid <u>washies</u>

[and surface =

C:[(yeah they're probably similar)

A:= cleaners they're probably similar (1) ha:ho how much has the child had?

Begins to write on notepad

C: really not very much (.)probably just just y'know tuhh had a taste of it in her mouth and then she spat it out and vomited [(2.0) just afterwards]

A: [right (2.0)] okay and err how long ago was this?=

C: =errrm about half an hour ago=

A: and she hasn't developed anything[(1.0) further

C: [no: she's quite happy now yep=

A: =sorry which surgery was it?=

C: =its _____=

A: =in _____ (1.0) ____ _____ is it?=

C:=_____ _____ yeah=

A:= okay↑ well the dettol antibacterial cleanser I've got here has (.) it's a

IO refers to screen on 'dettol antibacterial cleanser'

disin<u>fectant</u> [and has a=

C: [mmhm

A:=cationic detergent in it[the toxicity is low at this concentration=

C: [mmhm

A: =it will probably be irritant rather than corrosive =

C: =mmhm

(3.0)

IO switches screen to information about ingestion

A: ingestion you might expect a bit of gastrointestinal irritation with vomiting and diarrhoea[so umm well we might consider charcoal if the child=

C: [mmhm

A:= had taken a large amount errm just some milk to drink or other fluids [and just errm check that check that the child has no irritation or=

C: [fine okay

A: =corrosion in the mouth [but errm if she's fine something to drink will=

C: [right (2.0) that's fine

A:=probably be all that will be required=

C: =okay thanks very much for you advice=

A: =okay=

C: =thank you bye=

A: =bye

What Watson [11] calls 'doing the organisation's work' requires that both IOs and callers enter into a collaborative 'practical sense making' enterprise when transacting information. It is not mere reading out and transparent understanding: information transaction is an achievement of both parties. Callers formulate their reason for call and their case details as well as their understanding of the information given by IOs and IOs perform a range of intermediary roles that fit with the displayed needs of the caller regarding the substance ingested and its management. IOs suggest candidate accounts, and repair both misunderstandings and the adequacy of information given.

In the above we see how IO gathers information from the caller and how IO fits information and a narrative of their ongoing search into the interaction. That IO cannot find information on the substance as given by the caller is instructive for our purposes in that it shows IOs knowledge work over a range of potential resources (in this case web-based, but in other calls paper-based resources such as BNF are used) as the call continues. IO skilfully consults a wide range of information while maintaining an interaction with the caller [13]. In another context this has been called improvisational choreography [14], i.e., the 'available to hand' arrangement of information resources so as to be able to respond to callers without interruptions and so on. Further, we should not imagine that calls are in any way routine – any sense of routine is an *achievement* of the IO. IO orients both to callers' displayed knowledge and information in a range of databases in order to fulfil the request. The transcript shows how IO shapes the call to organisational-informational requirements *in vivo*.

Further, across our corpus we see how advice is tailored to a callers' specific circumstances: what an NHS24 nurse-advisor can do is different from a GP and

different again from a clinician located in an A&E context. Advice is tailored the provision of what we have called 'disposal states' – ie what the caller must do next to treat the patient (such as sending the patient to A&E, giving treatments such as activated charcoal, or advising the callers' to tell the person calling them to take the patient to a GP or to A&E).

Looking at the call we see that the problem formulation occurs at the start of the doctors' turn at talk – the doctor states that the child has swallowed some floor cleaner, but does not know the precise amount. The IO confirms the substance ingested but cannot find it on the database and therefore provides a disposal state formulation based on substances that are similar. Note here how the doctor orients to this suggestion of similarity stating 'yeah they're probably similar' before the IO suggests this similarity – listening to the recording, IOs subsequent utterance 'they're probably similar' is confirmatory of the doctors formulation that the substances are similar and not the other way around. The IO appears to orient to this confirmation as an assent to continue the delivery of treatment information (ie both have displayed an orientation to the sufficient similarity of the substances to allow the call to continue without recourse to other sources of information). Note also that IO asks about the amount ingested – from our observations this is because it is at this point in the calls' course that this information is required by the call logging system (the sequence [from fieldnotes] is substance ingested, amount and time ingested). There are parallels with the work of 911 dispatchers [12] in that there is an agenda to the call, directed in part by the need to obtain information to fill out pro formas, but which must be realised in real time in the calls course. Some IOs use post-it notes (in a similar way to the sales representatives work in [14]) to take this information as it is given by the caller, but others as here orient to the system in determining what information is required and hence what questions are to be asked at points in the calls course. As Whalen observes technologies designed to standardise work cannot be 'indifferent to local circumstances (and must) nevertheless always be employed in and through the actuality, the local circumstances, of unique and highly variable events' ([12] p. 221). As we said, a call is not structured by some external contingency but is instead a practical real-time accomplishment by those who are involved. As Watson points out 'The very specific orderliness and recognisability of these scenes is not imposed by means of some external standard applied *ex cathedra* from outside the scene; instead, these scenes of action are "self-organizing"' ([11] p. 95)[5].

(I would like to develop the above analysis more – but I hope that the point is made adequately)

Conclusions

In his discussion of dentistry, Anderson employs Goffman's notion of the 'situated activity system' – while this is not well defined in Goffman's work, the definition of a 'somewhat closed, self-compensating, self-terminating circuit of interdependent actions' (cited in [1] p. 83) will suffice for present purposes. The notion of a situated activity system is important for us in that it affords attention to activities as they are

[5] See also Schegloff, who notes that the attending to interaction as in some way routine elides the 'structured sets of alternative courses or directions which the talk and the interaction can take' ([9], p. 114)

situated within a series. Poisons advising is not simply the reading off of information from a screen or similar with information transferred to the caller who is then able to take the appropriate action – as we have seen, it is a situated practical accomplishment done in real time In this paper we hope to have shown some of the constituent parts of this situated activity system and the skills that are involved in undertaking toxicology advising. It is important to note that what IOs do is not simply reading information to callers – acting as some 'conduit' for information – advisings' work is the result of interactions between persons, information resources, technologies and organisational structures.

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