How do we tell our interviewees how much of their science we understand?

1) Deliberately using scientific terms

Q: First, I had to learn a bit about your research, and what I did, I had a look at the web and read what I could read there, and as I understand it, you are working on mechanisms how cells regulate gene expression under a variety of conditions such as oxidative stress and cell differentiation and …

A: That's pretty accurate. So, that's fairly accurate, your knowledge. I can give you a print out of my curriculum vitae which has a list of the research interests, grant funding that has been acquired over the years. It just makes life a lot easier.

How do we tell our interviewees how much of their science we understand?

2) Feeding back your understanding of interviewee's research

…We did very interesting experiments which put us on the world's map in that area, which was transfer of angular momentum of light to little tiny particles. What it means is .. - you know?

Q: Yes. You basically can transfer angular - make them rotate by directing laser beam on them.

A: That's right. That's under the microscope. So that, you know, mind boggles what you can do with that. You can build the micromachines, which we did, and you can do a lot of very interesting biologically related applications with it.

Q: So you can move around objects under the microscope and look at them from all sides?

A:Yes. I can look at them from - on the camera, yes. ...

How do we tell our interviewees how much of their science we understand?

3) Asking more 'scientifically enriched questions' if the level is too general

A: Well, I work in the area of mathematical physics. **(Yes.)** So the sort of work I'm doing in terms of research is motivated by what's going on in the physics community. So really it's just - the specific area of mathematics is algebra. So the goal in my research is to use methods of algebra to address problems that are arising in theoretical physics.
Q: In your publications I found several times the notion of exact solutions. (Yes, exact.) **So you are - I got the feeling that you are after exact solutions for certain mathematical systems and then try to apply them to different physical states, something like superconductivity.**
A:Yes.
Q: Then there were the strongly correlated electron systems and, yes, quantum ..... *([telephone]* Just ignore that)**. Okay. So that is the feeling I got and it is exact solutions as opposed to any approximations?**
A:Yes, that's right. So if you've got a physical system you have some sort of model for the system, then you want to analyse the model to see what it is. And because you're dealing with complex systems you have complex models. So often you do some simple approximation and make some assumptions, but the sort of work that we're interested in is to try and create an exact solution ….

How do we tell our interviewees how much of their science we understand?

4) Encourage detail

Q: How is this question related to say more recent work of other historians? You said, that this was a bit of a gap, that nobody had looked at this person.

A: Yes. I am not sure, how much in depth I need to go.

Q: If I don't understand or if it becomes too detailed, I will stop you.

How do we tell our interviewees how much of their science we understand?

5) Asking for explanations if the answers become too complicated

Commonly done as

2) Feeding back your understanding of interviewee's research

How do we use visual representations of research biographies?

Q: OK. This gives me an idea about your research work. I want to show you this. That's what I have drawn from your SCI publications. This bibliographic coupling is a technique we use to find joint references with the publications and if there are many joint references it means they are related. So that's just a means that we use when we don't know the field.

A: No, that's right, I can see it already and it makes a lot of sense. Yes.

Q: Yes, so obviously you have ... this I think is the mitochondrial work, the big cluster.

A: Yes.

Q: And that is something that you started …

A: … about 1993, that's right, and then the first publication came in 1994.

Q: And this was then back in Adelaide?

How do we use visual representations of research biographies?

Q: For the research conditions I have put in a second little picture where I would like to know something about two conditions that we are thinking are most important for research it is time and resources. (Yes.) **And if we could start with time for research I would like to know approximately for each position that you held what time for research was left.**

A: Okay. Well, during my PhD I had all the time for doing my research.

Q: No teaching at all?

A: Yes I did some teaching but mostly you got time for that. So I stopped my PhD for a month or so and I taught and then I went on with my Ph.D. So I got some extra months at the end of my Ph.D.

Q: Ah, and that's how you got this longer AiO then!

A: Yes.

How can information about research content be included in the analysis of empirical data?

Directly as causes, constraints, or outcomes of actions

Examples: resource intensity and dependency on external funding

decomposability of problems and dependency on uninterrupted research time

Indirectly as conditions co-varying with behavioural patterns

E.g. realisation of research on the basis of Honours, Masters and PhD projects common in the natural sciences, absent in history

Does it matter whether our interviewees are good or bad researchers?

Does it matter whether our interviewees are good or bad researchers?

Yes, it does, because ‘good’ and ‘bad’ researchers might describe the same phenomenon differently.

-> see example in Gläser and Laudel 2009

Does it matter whether our interviewees are good or bad researchers?

Yes, it does, because 'good' and 'bad' researchers might give identical descriptions of different phenomena

Interviewer: Now, are there any research topics that you are interested in but can't work on?

Geologist 1: I guess, at the moment its sufficient to keep me going at this stage. I think I've got sufficient projects to keep me occupied at this stage. So I'm not really thinking about other opportunities.

Geologist 2: No, not really, I mean everything I am interested in … I can maintain this balance between the applied and pure aspects enough to keep me going now.

Does it matter whether our interviewees are good or bad researchers?

Quality-dependent communication situations in interviews with researchers

Phenomena	Descriptions of the phenomena: Same	Descriptions of the phenomena: Different
Same	Current implicit premise of science studies	Contradictions in responses What is the ‘real’ situation?
Different	Invisible Is there a difference?	Most common situation How are data influenced by quality differences?

Does it matter whether our interviewees are good or bad researchers?

An application ...

	Amount of external funding			
	Germany		*Australia*	
	'Rich'	*'Other'*	*'Rich'*	*'Other'*
'Top' scientists	8	7	3	4
'Other' scientists	7	23	4	10

How can we find out whether our interviewees are good or bad researchers?

1. Know Thy Interviewees!

Collect information on performance levels prior to the interview

- Publications
- Citations where appropriate
- Book reviews where appropriate
- Grants
- Editorships
- Awards

Use interviews to collect further information on performance levels (if possible)

- As above
- Priorities, Aspiration levels

How can we find out whether our interviewees are good or bad researchers?

2. Assess interview responses in the light of performance levels

*** Categorise informants according to information on performance**

-> Careful! This is not a valid quality assessment!

*** Check how the information provided by informants might be affected by their performance levels**

*** Check how the analyst's judgment of quality-dependent information might be affected by the categorization**

(by varying the categorisation)

*** Be careful what you publish!**

-> Information on performance might make respondents identifiable

-> Published information on performance may harm respondents

Any questions left?

Finished