

## Appendix 1 : Research data - Transcripts from 10 hours of Skype text chat

Mike is in Brighton, Lucy is in Beijing/Qingdao. Any time-stamps are London time; Beijing is 7 hours ahead. The transcript runs across four sessions (Part One - Part Four).

### Part 1 : 2018 07 10 - Skype chat mh & lucy

- 1 Biography basics
- 2 Lucy biography - Entering STS
- 3 "Left scientists' movement" 40s
- 4 Radical science 70s
- 5 Wrapping up

Hi Lucy, are you there?

*mh: 08:01*

Ready when you are

*lucy, 08:08*

hi I am here

*mh: 08:09*

Excellent. Which interview shall we begin with? Shall I interview you?

*lucy, 08:09*

yes, the question list

*mh: 08:09*

Ok. Are you ready to be interviewed?

*lucy, 08:10*

yes, I think so

## 1 Biography basics

mh: 08:10

Here we go! Basics first . . . In what year were you born?

lucy, 08:10

1983

mh: 08:11

And in which decade did STS begin to develop in your country?

lucy, 08:12

it's hard to answer this question. I have wrote an article I think you have read that one. STS in China was generated from dialectics of nature, from late 1980s.

mh: 08:13

Yes I remember the article. Was there an official 'handover' from DoN to STS. Or a gradual displacement

lucy, 08:13

there is no sts discipline in China, only philosophy of science, and sociology of science. Only after 1980s, they free from ideology construction

mh: 08:14

So - in China, the work you do is known as sociology of science?

lucy, 08:15

I think it is gradual displacement. Maybe it is not a displacement, because we still have DON in university now, but the content of the course has been changing a lot.

We will call ourselves STS.

mh: 08:15

But in a sense, you have two identities? In the west, STS, in China sociology of science?

lucy, 08:15

there is new article about it in EASTS wrote by my teacher in Tsinghua. I will send it to you

mh: 08:16

Thanks I'd like to read that.

mh: 08:19

It's coming through now. Thanks Lucy

Another Q: in your own work environment, what was the institutional framework that first brought you together with STS?

lucy, 08:19

You mean in my working insititute?

mh: 08:19

Yes

lucy, 08:22

I am working in the institute for the history of natural sciences in Chinese Academy of Science. It is a 61 years research body in CAS. First it was build for the national glory to searching for the ancient China's science and technology achievement such as what Needham did. In 1980s, it started to do more research on western science history and the science culture research. When I first came to this institute, we have an sts center, and what I hope to do is to combine the research in STS with history studies. After 7 years, I am still working on it. ..

mh: 08:22

In what year did you move to the institute?

lucy, 08:22

2011

In sts center in our institute, we focus on the technology risk and its governance. We have a small research team.

mh: 08:23

Before you came to the institute, had you been involved in STS? Did you have a teacher in STS for example - at Tsinghua?

lucy, 08:23

I think these years we have seen growing of importance of sts research in China.

My undergraduate study is management of science and technology , so I was attach to STS issues from 2001 when I go to university. And then my master degree was philosophy of science and technology, and in Tsinghua for the phd.

mh: 08:25

And your management studies were in agriculture, is that right?

So, in 2001 when you went to university, Management of Science and Technology was established as a field, in the teaching curriculum? So "STS" in this sense was in the undergraduate teaching schedule?

Was Mgmt of Sci Tech taught as something particularly Western? Or was it a 'Chinese' perspective?

Are we still connected Lucy?

=== breakdown in Skype

I think one important milestone for me was the **visit to Edinburgh in 2008** for one year. It gives me a totally new angle to see STS

Yes, in China Agriculture University

<http://sourcedb.ihns.cas.cn/en/pe/201209/t201209253650689.html>

Lucy's CV page at Institute for the history of natural sciences, Chinese Academy of Sciences: Department of History of Science and Technology in the West (Western Department)

=== discussion switched to Loomio

2018 07 10 - Loomio chat - mh and lucy

*lucygao83 · Beijing, China · 2 hours ago*

where shall we start now?

*mikehales · Sussex, England · 2 hours ago*

OK here I am.

## 2 Lucy biography - Entering STS

So, in 2001 when you went to university, Management of Science and Technology was established as a field, in the teaching curriculum? So "STS" in this sense was in the undergraduate teaching schedule?

Was Mgmt of Sci Tech taught as something particularly Western? Or was it a 'Chinese' perspective?

*lucygao83 · Beijing, China · 2 hours ago*

This program dead few years ago. China Agricultural University and Beijing Normal University are the only two universities in China have this Management of Science and Technology in undergraduate. It is mainly about to cultivate the student understand science and management, philosophy also some sociology. It is an experiment. And I think most of our graduates went to similar department, such as Ministry of Science and Technology. The framework we use is a hybrid of science students and management, and we have history of science course during university. It is not an established field. The founder of this program had degree in philosophy of science.

*mikehailes · Sussex, England · 2 hours ago*

I get the picture, thanks. I'll just note one distinction . . In Britain STS is not seen to include science policy or innovation management. But somehow, areas such as technology assessment, foresight and governance studies – where you are working – are probably seen as "sort of" STS as well as technology policy. I think that **in China, the "departments" are bundled in a different way.**

*lucygao83 · Beijing, China in reply to mikehailes · 2 hours ago*

yes, sure. Most of STS graduated from the philosophy department. and they **still publish articles in the Journal of Dialectics of Nature.** and after phd, they will go to university to teach dialectics of nature, but in a new way. Not very much Marxism, maybe half half

*mikehailes · Sussex, England in reply to lucygao83 · 2 hours ago*

There might be **a parallel here . . .** It sounds as if your environment in 2001 as a student was quite 'experimental', in a similar way to Sussex in the 70s, when I came into contact with "science in its social context". There was no clear academic frame then, either. So perhaps you and I both have emerged from experimental settings?

*lucygao83 · Beijing, China in reply to mikehailes · 2 hours ago*

I think the distinction between uk and china is because in China, **the great enlightenment of 1980s was so quickly change people's mind in different dimensions.** So different area work on different issues, could

**grow up all together.** It is not like in the UK, that STS have different social context.

*mikehales · Sussex, England · 2 hours ago*

Let's go to the next set of Qs?

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### 3 “Left scientists’ movement” 40s

Is there any direct personal connection between your research career and the pre-war "Left scientists" movement and its post-war legacy? Did you study them at all?

*lucygao83 · Beijing, China in reply to mikehales · 2 hours ago*

Yes. I think most of Chinese scholars will know Bernal because of his well known research on social function of science. Also as I just mentioned, Needham as a great friend of Chinese people, and his research on Chinese history of science. But **we don't talk about their political position so much**.

*lucygao83 · Beijing, China in reply to mikehales · 2 hours ago*

such as If we admit they are left, it will degrade their objectivity of their research which is interesting

*mikehales · Sussex, England in reply to lucygao83 · 2 hours ago*

It's the same "neutrality of science" ideology as in the west!

*mikehales · Sussex, England in reply to mikehales · 2 hours ago*

After the war, the "left" scientists stopped being Left, and became dedicated scientists again.

*mikehales · Sussex, England · 2 hours ago*

Has historical reflection on that "Left science" movement influenced your own broad perspective (on the development of science studies)? Has it influenced your working approach to historical research?

*lucygao83 · Beijing, China in reply to mikehales · 2 hours ago*

It only happened to me when I realize that the old left is different from the 1960s new left. I don't think the other researchers have done this kind of reflection. I think it has influenced me, not only in historical research, but also the governance of biotechnology issue.

*mikehales · Sussex, England in reply to lucygao83 · 2 hours ago*

The New Left of the 60s-70s was VERY different. It was a reaction against Soviet official Marxism and Soviet state.

*lucygao83 · Beijing, China in reply to mikehales · 2 hours ago*

this is why I believe this is important for China.

*mikehailes · Sussex, England in reply to lucygao83 · 20 minutes ago*

This is complex isn't it? The difference between Old and New Left was very substantial, and as a historian, it's important to analyse this. But this was 50 years ago. How easy is it to bring THOSE differences into consideration in China today, where the landscape of knowledge, power and economics is very different from the West in the 70s?

*mikehailes · Sussex, England in reply to lucygao83 · 18 minutes ago*

It only happened to me when I realize that the old left is different from the 1960s new left. **I don't think the other researchers have do this kind of reflection**

Does this mean that you are **a bit isolated in your vision**, in China? Does this worry you?

*mikehailes · Sussex, England · 2 hours ago*

The Left-scientists movement was strongly influenced by Marxism-Leninism. In your own training, has Marxism-Leninism-MaoTseTung thought been a major factor. Or was DoN quite diluted by the time you were a student? It does sound as if "philosophy" is still a major frame for STS in China. But not Marxian philosophy?

*lucygao83 · Beijing, China in reply to mikehailes · 17 minutes ago*

I really couldn't clearly remember what is Marxism, and what is Engels DoN. I only went back to the book of Engels when I want to write about it. **We were trained as western philosophy of science and technology, and the STS. We read books and articles on Schlick, Heidegger, Kuhn, Bloor, Latour...**

*mikehailes · Sussex, England in reply to lucygao83 · 13 minutes ago*

That sounds fascinating to me. On one hand in Britain we had a great revival of Marx studies, new editions of Capital, reading groups, varieties of Marxism. It was in the air for a period of years. On the other hand, Kuhn was new and radical, and Latour hadn't happened yet. I wasn't in academia when Woolgar and Latour published their work, and only came into contact with it later. It certainly wasn't 'basic reading'. So **the whole timescale is different** in your national context. Some things are **telescoped together**. But probably other things have been **magnified** in China because of the different historical setting in which they were received.

*lucygao83 · Beijing, China in reply to mikehailes · 10 minutes ago*

Yes, it is really interesting! In China everything is compressed all together.

*lucygao83 · Beijing, China in reply to mikehailes · 14 minutes ago*

Do you think Maoism had influence the new left?

*mikehailes · Sussex, England in reply to lucygao83 · 10 minutes ago*

There was a very romantic affiliation with Maoism. Everybody (?) had a copy of The Little Red Book. I adopted 'Barefoot Documents' as a name for my freelance work, from "barefoot doctors" in China. The idea of The Long March was very powerful as a metaphor. But in New Left thought, Maoist thought wasn't major, I would say (although there were Maoist theoretical groups active in the radical science area, for a time in the 70s). Europeans and Americans were rethinking earlier political commitments in their national contexts. And international thought was quite significant in this - eg French.

*mikehailes · Sussex, England in reply to lucygao83 · 7 minutes ago*

When I did come across "anthropological" STS - eg Latour - I was very pleased. It's materialist, in a certain way - the study of PRACTICE. If that had been around in the 70s when I was a research student, I might have picked up different ways of thought and investigation. In the 70s radical science movement there was a great focus on "ideology" - which was basically idealist. Politically necessary, but not very productive, is my feeling now. My own PhD has "ideology" in the title!

However, let's just consider one more thing about "Left scientists" . . .

*mikehailes · Sussex, England · 6 minutes ago*

Do you have any sense that Gary Werskey's "first movement" failed? What was the failure?

Equally does it seem to you that the movement succeeded? In what way was there success?

*lucygao83 · Beijing, China in reply to mikehailes · a few seconds ago*

I think if they failed, it is because they simply try to separate science and technology from the social context. I think they succeeded in the establishment of scientist's image after the wwi and the economic crash.

I am not in a good position to answer this question. And I hope to listen your views on this.

*mikehailes · Sussex, England in reply to lucygao83 · a few seconds ago*

That is very odd, that they SEPARATED science and society! Bernal's message was about them being intimately connected. But in practice, it seems to me that what those guys wanted was more funding and more authority for science. When that came about, post-war, their politics was finished. And they did believe that doing science itself was a progressive thing. Which is a bit self-justifying, complacent and careerist?

OK, let's move on . . .



*lucygao83 · Beijing, China in reply to mikehailes · a few seconds ago*

Yes, maybe. And this is because the technology progress is so dramatical. As in biotechnology , the scientists are so terrifying by the new tech. They hope to get aligned with more stakeholders.

*mikehailes · Sussex, England in reply to lucygao83 · a few seconds ago*

**"scientists terrified by biotech" - this is important - we must come back to this in the present day, in connection with your own work**

*lucygao83 · Beijing, China in reply to mikehailes · a few seconds ago*

I don't know if all the scientists agree with this . But during my interviews, some very top Chinese scientists show their concerns very serious.

*mikehailes · Sussex, England · a few seconds ago*

Timekeeping . . . I would say we're about a third of the way through. How are you for time Lucy?

*lucygao83 · Beijing, China in reply to mikehailes · a few seconds ago*

I think your point is very important. How should we make the third wave more relevant? What can we learn from the first two?

*mikehailes · Sussex, England · a few seconds ago*

Lucy, we have quite a long way still to go. How is your time? Do you have the energy for another hour?

*lucygao83 · Beijing, China in reply to mikehailes · a few seconds ago*

How about you? I am ok.

*mikehailes · Sussex, England in reply to lucygao83 · a few seconds ago*

I have time and energy for another hour. I think we won't be finished by then. But let's see where we're at in a hour?

## 4 Radical science 70s

OK . . . switching now to radical science . . . Is there any direct personal connection between your own research career and the British radical science movement?

*lucygao83 · Beijing, China in reply to mikehailes · a few seconds ago*

Yes. You, and several STSers I know. Such as Robin Williams , Brian Wynne, Donald Mackenzie, Arie Rip in Netherland,

*mikehailes · Sussex, England in reply to lucygao83 · a few seconds ago*

When you and I met, you were already well into an investigation. What started you looking at those things that happened 45 years ago?

*lucygao83 · Beijing, China in reply to mikehailes · a few seconds ago*

When I started my phd research in 2008, I interviewed many people in STS. They all claim their research trajectory was changed because of the radical science movement. I was so surprised by then. But I don't have time to investigate. in 2016, I read an article by alice bell, she describe the BSSRS in a very interesting way. Then I started to think about, maybe I could do something related to this.

*mikehailes · Sussex, England in reply to lucygao83 · a few seconds ago*

Aha! Alice Bell! That's interesting. That article was written because BSSRS had started to think about an archive. She was funded to do a bit of research. That's very interesting that this connection reached you in China :)

*lucygao83 · Beijing, China in reply to mikehailes · a few seconds ago*

I have to cook in 20 minutes, :cry:

*mikehailes · Sussex, England in reply to lucygao83 · a few seconds ago*

OK – in 15 minuted let's do some planning, about how and when to pick this up another day?

*mikehailes · Sussex, England in reply to lucygao83 · a few seconds ago*

Would you say more about the effect that STS people spoke of – the effect of 'radical science' on their professional work?

When you interviewed them, were YOU doing historical research? Or was your focus contemporary?

*lucygao83 · Beijing, China in reply to mikehailes · a few seconds ago*

They didn't reply so much. I think lots of them were the member of BSSRS. When I interview, it is a contemporary research. I was doing research on how sts researcher participate in the biotechnology research. It is new co-production of knowledge.

*mikehailes · Sussex, England in reply to lucygao83 · a few seconds ago*

**Let's come back later to "coproduction of knowledge".** This is a politics – and something new that, yes, is probably **very much influenced by the new 70s politics.**

*lucygao83 · Beijing, China in reply to mikehailes · a few seconds ago*

Brian Wynne, he said he was the top 3 of Cambridge class, in material science I think . but the best students did not go to science department or industrial lab. They looking for something more meaningful. Robin Williams was one of the BSSRS members in working disaster in Manchester after he graduate from phd. He was then went to Edinburgh to do serious research .

*mikehailes · Sussex, England in reply to lucygao83 · a few seconds ago*

"working disaster" – please explain?

*mikehailes · Sussex, England · a few seconds ago*

One more question, then time for you to cook Lucy?

Has historical reflection on the radical science movement influenced your own broad social (political?) perspective? Have you been strongly influenced in your ambitions or views by other social movements (historical or present-day, Western or China)?

*lucygao83 · Beijing, China in reply to mikehailes · a few seconds ago*

Yes. I think so and I hope so. I believe the science and technology could be better serve the world and we have to understand the whole mechanism first. But, as you known, it might be hard for me to be too radical . So **I think the historical study could help me to speak out my words.**

*mikehailes · Sussex, England in reply to lucygao83 · a few seconds ago*

I can see that strategy, yes. It makes sense to me. "History" may be safer than the present day?! But it can be very powerful. A book on "The making of the English working class" in the 18/19th century had a very powerful influence on me.

*lucygao83 · Beijing, China in reply to mikehailes · a few seconds ago*

yes. I have bought the book, but never got a time to read... omg...

*mikehailes · Sussex, England in reply to lucygao83 · a few seconds ago*

It's a wonderful book. But very dense, in a "historian" way. And perhaps quite hard for a Chinese reader? Perhaps not. For me it was so obviously part of my own history, as a working class boy from the north of England. The author of the book (EP Thompson) was living in my town in the 60s when he wrote it – although I didn't know that until recently. But in the 70s, the history was the history of "my people". And me personally.

*lucygao83 · Beijing, China in reply to mikehailes · a few seconds ago*

I am sorry, I only get to know this social movement. If I can , I will also want to add the nuclear scientists' anti-nuclear weapon movement, environment movement .

*mikehailes · Sussex, England · a few seconds ago*

Which social movements – in addition to British radical science – have influenced the things that you wish to deal with in your research?

*mikehailes · Sussex, England in reply to lucygao83 · a few seconds ago*

**What about movements in China?** Contemporary with you over the past 20 years?

*lucygao83 · Beijing, China in reply to mikehailes · a few seconds ago*

I find out the BSSRS share a same office with the green peace , but I don't know how to make them to me comparable or parallel.

*mikehailes · Sussex, England in reply to lucygao83 · a few seconds ago*

**Surely your intention to make science and technology serve the world better must have been also influenced by things closer to you than movements 45 years ago, on the other side of the world?**

To pick up here on Friday ...

## 5 Wrapping up

*mikehailes · Sussex, England · a few seconds ago*

Let's make a plan for another session? What time? What technology? This Loomio is a bit slow but it seems to work. Perhaps leave Skype alone?

*lucygao83 · Beijing, China in reply to mikehailes · a few seconds ago*

how about Friday ? around 3 pm in Beijing.

*lucygao83 · Beijing, China in reply to mikehailes · a few seconds ago*

either will be ok. skype works now. :thinking:

*mikehailes · Sussex, England in reply to lucygao83 · a few seconds ago*

That time suits me thanks. I think I'm satisfied with Loomio.

*lucygao83 · Beijing, China in reply to mikehailes · a few seconds ago*

ok. Then Loomio. Should I prepare something?

*mikehailes · Sussex, England · a few seconds ago*

Think about **the social influences**? I'll start with that on Friday?

Thank you SOOO much Lucy, for finding the time. And for conducting this in my language. I am absolutely impressed :-) :-)

*mikehailes · Sussex, England in reply to lucygao83 · a few seconds ago*

On Friday, we just continue with the question schedule, yes? But I think there are **one or two hints today, of things we should return to when speaking about your work in your field today**. So have a look back at those?

*mikehailes · Sussex, England in reply to mikehailes · a few seconds ago*

This has taken around 3 hours today. We've covered about a half of your interview. So . . . is there an issue about **completing the whole pair** of interviews soon?

*lucygao83 · Beijing, China in reply to mikehailes · a few seconds ago*

I feel so happy talking to you! It really helpful! I am the one should say thank you. I learned a lot from you. We grow up in a messed time line, which makes the historical narrative so important!

*mikehailes · Sussex, England in reply to lucygao83 · a few seconds ago*

:slightsmile:

*mikehailes · Sussex, England · a few seconds ago*

Shall we wrap up now?

*mikehailes · Sussex, England · a few seconds ago*

Talk to you 3:00pm Beijing time Friday. Have a good evening, bye for now

lucygao83 · Beijing, China in reply to mikehales · a few seconds ago  
you too, have a nice day in bright brighton!

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## Carried forward

I was doing research on how sts researcher participate in the biotechnology research. It is new co-production of knowledge.

**Let's come back later to "coproduction of knowledge".** This is a politics – and something new that, yes, is probably **very much influenced by the new 70s politics.**

*Added: Lu & Li refer to "participatory research". They seem to mean cross-disciplinary collaboration? Is this 'radical' today? Is the radicalism of this a legacy from centralist Party rule? Or the rule of DoN? Or the rule of market economics in economic development?*

*Is there any idea that people who are not academic specialists could be enabled to participate in policy research and development (as actors, not as research subjects or objects of consultation, or focus groups)? In the British context, \*that\* would be radical.*

the technology progress is so dramatical. As in biotechnology , the scientists are so terrifying by the new tech. They hope to get aligned with more stakeholders.

**"scientists terrified by biotech" – this is important – we must come back to this in the present day, in connection with your own work**

I realize that the old left is different from the 1960s new left. **I don't think the other researchers have do this kind of reflection**

Does this mean that you are **a bit isolated in your vision**, in China?  
Does this worry you?

**the great enlightenment of 1980s was so quickly change people's mind in different dimensions.** So different area work on different issues, could **grow up all together.** It is not like in the UK,

STS . . S&T policy . . innovation management . . technology assessment . . foresight . . S&T governance studies . . . I think that **in China, the "departments" are bundled in a different way.**

yes, sure. Most of STS graduated from the philosophy department. and they **still publish articles in the Journal of Dialectics of Nature.** and after phd, they will go to university to teach dialectics of nature, **but in a new way.** Not very much Marxism, maybe half half

## Part 2 : 2018 07 14 - Skype chat mh & lucy

- 1 Radical science 70s - continued
- 2 Third movement?
- 3 Wrapping up

==== Starting in Loomio

lucygao83 · Beijing, China · 5 minutes ago

hello

mikehales · Sussex, England · 5 minutes ago

OK, good to 'see' you. Do you have a limit on time today Lucy?

lucygao83 · Beijing, China · 4 minutes ago

I am fine. You will go to London. When will it be?

mikehales · Sussex, England · 3 minutes ago

I'm open-ended - am no longer going to London, thanks.

Let's start back in on the 70s radical science movement . . .

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### 1 Radical science 70s - continued

mikehales · Sussex, England · 3 minutes ago

Theorisation of 'science and society' was a significant feature of the radical science movement. Has your own approach to professional practice as a researcher been influenced in any way by 'radical science' approaches to theorisation?

lucygao83 · Beijing, China · a few seconds ago

Yes. If the Edinburgh School is a part of the theory, yes I am . I am heavily impacted by the SSK and its following intellectual achievement.

mikehales · Sussex, England · a few seconds ago

It's hard for me to say whether that is 'radical science' or 'new academic' practice.

lucygao83 · Beijing, China · a few seconds ago

Then can you tell me what is the radical science approaches?

mikehales · Sussex, England · a few seconds ago

Good question, not easy. Some Edinburgh people were involved in BSSRS - Robin Williams was (but before he moved to the Edinburgh Science Studies Unit?). And there were feminist postgrad radicals in Edinburgh, in the SSU, involved in BSSRS (Marianne Craig). Judy Wajcman (past-president of 4S) was a feminist. But I think the majority at Edinburgh were

'professionally' motivated in their research - as historians, sociologists, philosophers. I can't be sure of this, I had very little personal contact with Edinburgh folks. Apart from David Edge (who was an intellectual, rather than a political, person) , Gary Werskey was the only one I actually met - following suggestions by my history-of-science tutor at Sussex, I went to Edinburgh to ask him about starting points for a historical PhD. He introduced me to the 'Left scientists'. Gary (an American) is a couple of years older than I am, and was post-doc.

==== Continuing in Skype

mh, 08:45

Gary Werskey, of course, did his historical work at Edinburgh. I think he started as 'academic' and became 'radical' - on the far left (Big Flame) and in *Radical Science Journal*. Eventually he wrote his 'Three movements' analysis, around Marxist critiques of science - anticipating a third movement. But his historical work was coming from a 'fashion' in history of science, and from new source material that became available.

Interesting, the weaving of professional-intellectual and radical-political currents. There is no sharp distinction, they blend together.

lucy, 08:46

I only read Werskey lately. But I still think my whole view of science is constructivism

mh, 08:47

My own feeling as an early-70s postgrad researcher was that at Sussex we were 'radical' - Brian Easlea was a Marxist, and a socialist-feminist scholar-activist. But at Edinburgh, the leadership of David Edge was 'professional'. Edinburgh was more effective in developing a 'stance', and a larger more coherent group. At Sussex we were a loose collection of postgrads, around Brian, and other Left-academics on campus. The main proto-STs focus at Sussex was SPRU - and that was not radical in our New Left Second Movement sense. It was 'Bernalist' (First Movement). Very committed to economic development in less developed countries, though. That was radical, in a broad left sense.

I find it hard to say where constructivism came from - even though like you I'm a constructivist! From broad intellectual currents, I think - post-structuralism especially. The introduction of material objects as 'actors' was an important development. But I myself was already thinking in terms of the material aspect of 'culture', based on Marxism. My 'constructivism' is cultural-materialist labour-process theory, developed well before 'constructivism' was announced as an STS school or tendency.

lucy, 08:50

Is Brian Easlea a member of BSSRS?



mh, 08:51

Brian introduced me to BSSRS. He wasn't active in BSSRS - on committees etc - but he supported the organisation and its aims, and was a member.

He was more involved in 'radical academic' work - teaching, research - rather than attempts to create a national 'science for people' organisation. Brian was an 'ideas' person, fighting a war of ideas! His lectures had a great influence, people would queue to get into the lecture theatre!

lucy, 08:52

So it is very **easily for Chinese scholar to accept constructivism**, because of the Marxism origins.

mh, 08:54

At another time we should discuss **materialism** in Marxism, constructivist STS etc. I myself have a strong theory frame which is organising my 'commons' activism right now . . but not to present here!

lucy, 08:54

All right. Let come back to where we started So how do you distinguish radical academic and activist? Is Bob Young an activist ?

mh, 08:56

Bob Young was a very substantial scholar, big brain, big memory, good writer. But he became very 'political' as part of new-Left movements, and left his academic position at Cambridge to develop independent analytical work and radical journalism and radical publishing activities. So at the time I met him, he was radically-politically rather than professionally motivated. This is why we got on together!

Many intellectual currents. But not necessarily 'radical science'. I'll ask another question to get closer to this . . .

The radical science movement was strongly libertarian and diversified, and oriented in a variety of ways towards 'ordinary people'. It existed in a **broad context of 'radical professional' activity** in the 1970s (economists, teachers, philosophers, midwives, etc).

Have these been subjects of study for you, and have they in any way influenced your personal perspective and commitments relating to science and society?

lucy, 08:59

Yes. I am trying to do research about this, but I just started.

mh, 09:00

It's very broad, and not easy to research . . . Although there were many 'radical x' journals, where 'x' is an academic or professional discipline - which may be easier to find and study. Some still continue

to publish today: *Radical Philosophy, Capital & Class* (socialist economists' journal).

lucy, 09:00

I am trying to discuss the tensions inside the BSSRS, the New Left, old left, radical activist, the concerned scientists. and try to think about what is appropriate position for the expert.

In nowadays, the scientists are still doing effort as 40 years ago, to held conference, talk about what should we do with the new emerging biotechnology. What should this kind of activity play its part in the whole picture?

mh, 09:02

I suggest that you have a look at my published booklet of extracts from *Science or society* (1982). I tried to identify various forms of opposition and resistance among scientific and technical radicals at different times, including 'watch dogs' and science-for-people (alternative use of expertise).

lucy, 09:02

ok. Where can I get it? LULU?

mh, 09:03

Yes Lulu - it's called 'science or society extracts'

lucy, 09:05

ok, I will look for it.

Actually I am still trying to answer the question of technology governance.

mh, 09:03

Governance is a very important practical issue

lucy, 09:03

Maybe I am not that radical... haha

mh, 09:05

This 'radical' word is slippery. There is radical work conducted in academic contexts. But in the 70s, 'radical science' explicitly meant 'not academic'; 'for the people' not for professional career. That was what happened to the First Movement of Left scientists - they returned to career and left politics.

In China today, are there formations of 'radical professionals'? Economists? Philosophers? Health workers? Educators?

lucy, 09:08

And what happened to the second movement ? Part of them became academia, part of them like you . Can you describe your trajectory briefly, and do you think it helpful if you look back to where you started?

mh, 09:10

*Yes to these (I moved out and in and out of STS, and eventually did get an academic job in the 90s). Can we cover these when you interview me? And return to your experience and Chinese context . . .*

Lu & Li refer to "participatory research". They seem to mean cross-disciplinary collaboration, or the input of STS researchers into practical policy formulation? Does this count as 'radical' practice in China today? Is it 'radical' because of a legacy from centralist Party rule? From the rule of DoN? From the rule of market economics in economic development?

mh, lucy, 09:11

I don't think it happened in China. But for the public, there is something happening. Such as some patients , trying to buy new medicine from abroad. and some of the environment activist, also some new well educated farmers.

In the professional expert, I see almost nothing. It is easily to be controlled by the Go. after the 19 eight nine, there is saying that the soul of the academia is gone.

mh, 09:13

It sounds to me as if there are different kinds of movements? Some consumerist, escaping the Chinese market? Some 'globalist' (the environment)? **Well educated farmers** - now that's interesting!

lucy, 09:14

That participatory in the paper is not radical at all. what they are talking is how researchers participate in the government policy making process.

mh, 09:15

Yes, that's how I read it. But perhaps that is 'the state of the game' in China right now - breaking out across 'silos' of policy practice and academic disciplinary organisation?

I found the same issue in the national health service here, eight years ago when researching 'patient-centred' IT system development. Radical doctors, developing information and practice for health benefit, find they have to develop new collaboration **within** the health service, before they can open participation to patients in the community. The professional organisation itself is so bureaucratic. Also, many hospital

doctors like the prestige (and income) that they get in their medical specialism, and like to be like little kings in their own kingdoms.

I guess I'm not hearing you speak of any broad 'expertise for the people' ideas in China, like there were in Britain in the 70s?

lucy, 09:19

No, that part maybe the legacy of DoN. Because the DoN community is very closely to the government.

mh, 09:20

I can imagine that DoN is close to the Party, yes. So DoN is a safe career path?

lucy, 09:21

Safer in the 1980s, not now. Because **the whole evaluation framework is changing.**

mh, 09:20

. . . Expertise for the people - the principle that expertise and knowledge should be put into practical forms that will directly enable 'non specialist' people to see things more clearly and act more effectively.

One important 70s person in the West was Ivan Illich (radical Catholic priest in Mexico, working for education of poor). He attacked the professionalised power of expertise and systematised public services, in the name of 'vernacular knowledge' - knowledge in ordinary life, organised by ordinary people. He called it 'conviviality'. I use that term in the title of my recent book. In this use it signifies anti-professionalism, as well as its usual meaning of friendliness and helping one-another in an everyday casual way.

lucy, 09:20

What do you mean by broad 'expertise for the people'?

mh, 09:22

Instead of experts acting '**on behalf of**' the people, through State agencies and professional institutions, acting **with** them, engaged in practice alongside them; enabling them to acquire knowledge and conduct research. BSSRS began to do this in various areas in the 70s.

lucy, 09:22

Maybe in China, expertise for people have to go back to the cultural revolution and the barefoot doctor period.

After 1978, the whole academia just turned 180 degree back to the more academic, **more expertise way**. Someone said, it is a **protect**, of the whole community, to far from the reality.

mh, 09:24

I have a historian friend who writes of the difference between 'associationist' Left politics (direct person-to-person action and knowledge sharing, by workers and 'ordinary people') and 'collectivist' Left politics ('on behalf of' ordinary people who are 'not intelligent enough' to organise themselves). This is a very strong divide in 20th century 'left' movements in the West.

lucy, 09:25

There is a historian in US published a paper about how did the experts **teach the public** to learn how to forecast the earth quake . His name is Fan Fa-ti.

mh, 09:26

The cultural revolution is probably important. In the West we could be romantic about it. This is why I adopted the idea of 'barefoot' practice myself. But there was terrible brutality, and crude application of rules, without any subtlety or dialogue or sensitivity to tradition or skills?

Very mixed currents, during those years in China?

lucy, 09:26

Associationist left, and collective Left politics, is very interesting!

mh, 09:28

I have an article by my friend, Stephen Yeo, which I can send to you. But it's an old version, and he is just publishing a new version in a book due in October, which will be very interesting. There's a third tendency as well, which he calls Statism. So **Statism, collectivism and associationism** are three streams of socialist thought, practice and political organising, from mid-19th century to the present.

mh, 09:29

Collectivism has right-wing forms too. It's what Jacques Ellul called 'technocracy', and what Illich attacks (in combination with State bureaucracies and mandatory public-service systems such as public health and education).

lucy, 09:28

Now, the government will still try to attract more phd students , masters, such as in Tsinghua university, to work in the rural area. But their work normally is far from their expert.

mh, 09:36

Hmmnn. The PARTY! Can't escape it! Main career path for many years.

lucy, 09:36

I am still too timid, especially in this social environment.

mh, 09:37

The Chinese State and Party are powerful. If I were in China, I would feel a need to step carefully. Careers can still be destroyed?

lucy, 09:38

sure

Yes, these years has seen a growing importance of the party's role in our life. However, before the changing of the constitution, people love to be controlled...

mh, 09:39

*People love to be controlled*

SO TRUE. This is where liberation is a VERY difficult challenge. Something I think about a lot!

Moving along, another question . . .

mh, 09:39

**Innovation policy research, innovation management research** and **STS** emerged as fields during the 70s and 80s. In your experience, does it seem that the 'first movement' has had a substantial effect in the shaping of these institutions?

I guess in China, 'First Movement' means DoN and pre-enlightenment culture?

lucy, 09:40

en, not really. maybe in some part.

In the structural functionalism sociology, Merton and Bernal is still important.

mh, 09:43

I find it so cute, that Bernal is still core reading in China. Nobody in the West reads Bernal. He's already 'become' everyday S&T policy practice, quite normal. Nobody reads the founding philosophy. Interesting, that in China you do. Encapsulated in DoN curriculum?

From you I get a sense that in 80s, STS came to China as 'a package'. But the relationship of this with Old Regime is still being negotiated. For example, in 'participatory research'?

lucy, 09:42

Yes! that is a really great metaphor!

mh, 09:43

The institutions take a long time to change.

In the 70s we had a slogan copied from Mao - "the Long March through the institutions", Still continues. This is why Long March is in the title of my recent book.

lucy, 09:47

haha like the title

mh, 09:47

So, in China, the 'second movement' has had a substantial effect - in the sense that STS 'fully formed', post-radical science generation, has become a new knowledge base adopted in academia?

But perhaps not yet fully integrated into the practical machinery of economic policy making, where Old Regime still is powerful?

What about economics? Is western economics powerful in China? Neoliberal, even?

lucy, 09:50

Maybe, I think so. but very thorough. But as one peiking university professor said, **Scientism is our default setting**, so if we have to do more work to avoid slide down

I don't know so much of the economics, so sorry

But National Innovation System is popular in China

mh, 09:51

*Scientism is our default setting*

THAT's interesting. 70s radical science politics (and Illich too) were centred on scientism. Which is what I also called 'collectivism' earlier. '**Slide down into scientism**' could be an important notion . . . how to avoid? What other approaches are strong, that can be draw on to avoid this slide? Where does this slide occur most easily? In which professions or academic departments?

National Innovation System is a 'scientific' model in innovation economics? And innovation economics differs from conventional market economics, bcos its is quite concerned with how **economic practice** is ACTUALLY DONE. **Materialist!** Conventional economics is just about money, capital accumulation and markets, without concern for **the material content** of economic activity. This is 'Marxism 101' - the distinction between use-value and exchange-value ;-)

Last question on radical science . . . From your studies, do you have any sense that some of the strands of radical science 'failed' and some 'succeeded'?

Have some strands reached China with STS?

lucy, 09:58

That is hard question for me. I think the they had some progress , actually is **in the policy area**.

mh, 09:58

Uh huh, I would agree there I think

lucy, 10:00

From others, I think I heard Peter Harper said, what they have done in the 1970s, is not right. We have to find a balance between development and the alternatives.

in the environment movement, it get **success in both policy, expertise, and the public**.

mh, 10:01

GROWTH came to be in the centre of things in the 70s, both mainstream economics and policy ("You've never had it so good' from the post-war boom, 'The white heat of technological revolution') and the opposition, which Peter was part of ('Limits to Growth')

Growth - or DeGrowth - is still at the centre, the main issue.

China is BIG on growth!!!

lucy, 10:01

We have also talked about Freeman. I think some one said, he was so radical in the 1970s, but now it is like the basic innovation policy knowledge. It means , it success!

mh, 10:02

Yes, Chris Freeman represents the success of Bernalism - First Movement not Second.

Your Edinburgh guys are a good example of Second Movement success, expressed in STS and in the 'softer' ('social shaping', participatory) dimensions of innovation research and development.

lucy, 10:03

Really.. I only knew that he was a BSSRS member.

yes, and in academic.

mh, 10:04

Chris was one of the youngest members of the Old Left generation of the Left scientists. Communist Party. I interviewed him in my 70s research on the 'Left scientists' movement, and we chatted about that stuff.

Chris put 'science of science' into practice. His generation did. The Bernalist background has vanished now into the Science Policy formation; was digested already by the 70s. Chris believed in scientific and



technological progress, steered by collectivist State policy interventions – a good example of Bernalist 40s politics surviving into the 70s. And ongoing today. A great success.

lucy, 10:06

Brian Martin had an article talking about **The Critique of Science Becomes Academic**

mh, 10:07

Uh huh. Sounds right to me. **That's my view of 'the failure' of radical science.**

I think **the other success** of radical science is represented by what you and I saw in Bristol. THAT movement succeeded, is still current, has become almost mainstream?

lucy, 10:09

I can not agree. The Bristol conference seems to me is a memorial of the old time. There are very few young people involved.

mh, 10:12

That is true. Partly, there was a mistake made in timing the conference.

OK, what I mean is, that the attention to global warming, environmental degradation, biodiversity, etc has become a major global current. And that many of those at Bristol have been able to make a living as practitioners in areas that in the 70s were 'alternative' – wind energy, retrofitting of energy saving to homes, hybrid power, etc

lucy, 10:09

Can we see the Responsible Research and Innovation is kind of success for the second movement?

mh, 10:12

I don't know RRI well enough to be able to say. I would guess that it's a continuation, in some way, of 'the spirit of the 70s'

lucy, 10:13

Yes, I agree this

mh, 10:14

The thing about that branch of 'radical science' was that they were a movement oriented to **everyday living**, not to 'ideas'.

Although they were criticised by Left 'class struggle' formations as 'lifestyle' people, they did in fact research and develop alternative technologies and alternative economics – because they wanted to have a different organisation of actual social life. That was DEEPLY radical.

Let's come back to RRI in the next section. Moving on . . .–

## 2 Third movement?

mh, 10:14

Do you have any personal sense that there may be current movements - in your research field or in civil society - which could potentially constitute '**a third radical science movement**' of the kind that Gary Werskey speculates about?

lucy, 10:20

In China, I didn't see it. How is in UK?

mh, 10:21

I do have a sense of something very significant moving **globally**. It's a movement for '**the commons**' and for 'peer-to-peer' (**P2P**) production and social organisation.

I'd like to describe this when you interview me, so not going too much into it now.

I remember you referred to 'citizen science'. Is this a concern in China?

lucy, 10:24

Not really, but we talk about **Science Communication** now in China. Because the chairman said the science communication and innovation is the two wings of the whole innovation system, so it put the science communication into a very high level. So, people who have interest in public participation, or the citizen science, would put their interest into the broad umbrella of science communication.

mh, 10:25

That's a step forward. However, 'communication' can be a long way from dialogue?

lucy, 10:25

sure . . . it's a long way to go

mh, 10:25

But new career possibilities, and new settings to develop and communicate alternative insights and commitments? **Long March through the institutions!** Including these new institutions?

lucy, 10:30

That is an interesting idea

mh, 10:25

What did you mean then, when you referred to citizen science? Something in the West, or in China?

lucy, 10:28

yes, that's right. If there is niche, people will come in and do something they feel important. I want to some research in biohacker, but it is hard to stay in the field for me.

mh, 10:28

Biohacker?

lucy, 10:28

Such as makers, garage science. I mean, citizen science, is very popular in the western...

mh, 10:29

Ah, OK. Yes, this is part of what I include in P2P imagination and P2P global organisation.

Biohacking in China? Or as a model that might be introduced to China?

lucy, 10:30

Biohacking in China. There several lab in Shenzhen, not so obvious in Beijing.

mh, 10:30

What kind of things do they hack?

Tell me about Shenzhen - it's location in China, its status economically, strength of its university system? Presence of STS?

lucy, 10:34

Shenzhen is the place where Deng Xiaping started opening and reform. It is near Hongkong, very high economic performance. If excluding the national firms of Beijing, it maybe the most wealthy city in China

They do some very preliminary research. But I want to understand their background, and their vision

mh, 10:34

OK, a key site. Very capitalist. And radical openings

lucy, 10:35

haha , yes, very good analytical frame

mh, 10:35

It's called class struggle ;-)

lucy, 10:36

These days, there is a movie is very popular in China. Called *Dying to Survive*. similar to Dallas buyer club. I think it highlight the importance of people in their own medical ability

mh, 10:38

Recently I emailed you links to work by Adrian Smith and colleagues at SPRU/STEPS . . . 'Grassroots innovation', an analysis of prospects for '**open & collaborative**' innovation . . . the **Transformative Social Innovation** manifesto. This looks to me like an important emerging formation in s&t-related r&d. . . . Not the same I think as Responsible Research & Innovation

Adrian has done research on FabLabs. So if you investigate biohackers, his methodology might be relevant?

lucy, 10:41

Yes, thank you so much. I will find this. I remember I went to SPRU in 2009, and someone is doing a manifesto, is this the same? I will figure out.

mh, 10:41

'Open & collaborative' is a reference to P2P vision, both are key terms.

The emphasis on '**social**' **innovation** is different of course from traditional industrial innovation. This is an aspect of the current global movement - the do R&D on everyday economics, everyday technologies, everyday modes of theory-production. Not detached R&D in academic departments, but theory-of-practice that directly supports practice in civil society

OK, I'd like to deconstruct the presence of '**Marxism**' **today** as a frame of investigation. **Next question** in three parts I think . . .

First . . . In your professional environment, is there any **significant influence from Marxian approaches** to science, society, culture or economy? Obviously, DoN? What kind of contribution does it make broadly in STS? In your own work?

lucy, 10:52

I think the big picture is we try to look at things broadly. From the view of nature, view of science and view of society.

We learn very few real Marxist theory or framework, I only started pick it up when I read Feeberg {}, Marcus. But I don't know if this could be seen as contribution, from marxism approach. I am sorry, i don't have better answer.

mh, 10:55

Yes, I understand that DoN has become an autonomous paradigm. Perhaps no longer 'Marxian'.

Where I'm going is . . . to unpick Gary Werskey's theme of 'Marxist critiques of science'. So, next question is . . .

Is there a significant influence - in STS? in your research? - from the ('anthropological'? ethnomethodological etc?) study of material practices (eg 'work practice', 'laboratory life')? 'The turn to practice' was very important by the 90s. This would be the '**materialist**' **dimension** of 'historical materialism'

lucy, 11:00

Yes. I think so . There are people do research on anthropology of technology, especially the local technology in China. Such as traditional medicine, Mongolia artifact. Also some one stay in the lab and do research similar with Latour.

mh, 11:01

Yes, I'm thinking of Latour.

lucy, 11:01

Do you think this is materialist? I don't think they think this way...  
haha

mh, 11:01

I'm also thinking of work that Lucy Suchman (ex 4S president) did in her work-practice and technology lab at Xerox in the 90s. And Leigh Star, also ex-4S president, who (with Geof Bowker) studied 'infrastructure'.

I can imagine that anthropologists studying local technology might not do this in a 'materialist' way, yes. Anthropologists do address 'material culture'. But they also are very concerned with 'symbols', imputed meanings and symbolic relationships. So, no, quite possibly not materialist.

lucy, 11:03

Yes, but we never connect these with materialism and historical materialism

mh, 11:03

Not many people do!

When I met the 'work practice' anthrop's (from Xerox and other high-tech corporate labs) in the 90s, it was very clear that we were on the same wavelength, concerned with the material control of actual work environments, the situated knowledge of people actually present in the work process, and the part that material apparatus (documents, data

networks, furniture, physical space etc) plays as an 'actant', in Latour style.

The other half of historical materialism is '**history**'. You've said that it's a struggle to **connect historical investigation into STS**. Say more?

lucy, 11:12

Yes, I think my problem is I came from a STS department when I started work in our institute of history of natural sciences. I hope to bridge these two.

mh, 11:12

Do other people in your department 'get it'?

lucy, 11:13

I think it depend how good I do my research . So far, I think it's fine, but not good enough. I want to do more historical research is because I think **in China we have no second movement yet.**

mh, 11:15

What you do, covering current governance **and** historical movements, is very challenging. And hard legwork.

Well, I think that when the Second Movement occurs in China (I agree it may not have happened yet) **it will possibly be The Third**. If you get my meaning?

lucy, 11:16

And when we see the RRI, or the transformative social innovation, we will always tell ourselves, it is because the **European people have more money**, and they have **capability to care about things** like environment or the ethic issues. But this is wrong. We are so lack of a social enlightenment such as what happened in the 1960s and 1970s.

mh, 11:17

*European people have more money*

So they can afford to care. That's a very powerful perspective. If China is playing 'catch up', this could easily be dominant.

lucy, 11:17

But now, China is trying to be the **leader**. It could be done if the ideology is not fit the time.

mh, 11:18

Leader in being the same?!

One way of developing 'ethics' and 'environment' is to examine **actual quality of life** - air condition, crowding, economic inequality. Economic

migration. Oppressive work in industrial production and construction.  
Breakup of families Danger to all human life!

I guess that there are 'climate deniers' in China, as in the West?

Also, to accept that all people have the capacity 'to know' - which is a force of production that is very underdeveloped?

In the West we lost **this** struggle in 19th century. Ordinary working people began to learn and self-educate and organise. But standard of living in consumer economy attracted people more than the hard work of R&D on an alternative economy and governance system.

lucy, 11:22

Now it get better. Because Xi is trying to build up a beautiful China, return to green mountain and clear water.

mh, 11:22

Green mountains and clear water is a very sound vision! I didn't know that. I'm very glad about that - it could turn out to be very important. And beauty is a powerful cultural force - perhaps especially with aspects of China's cultural heritage. Although art was for an elite?

lucy, 11:24

You could check the 19th party congress related news. It is vey clear policy commitment now in China. Also the Community of human destiny.

I will send you this.

Also we establish a new department , called ministry of ecology and environment

mh, 11:25

Yes, please send (file received)

[http://newssearch.chinadaily.com.cn/en/search?  
query=the+19th+CPC+National+Congress](http://newssearch.chinadaily.com.cn/en/search?query=the+19th+CPC+National+Congress)

mh, 11:26

Is there a popular movement on green mountains etc? Or is this only from The Top?

lucy, 11:29

In China it is hard for the policy to be implement in the local level.

11:27

*Let's take a procedure check . . . How much longer do you feel you want to continue this session Lucy? I feel we have another hour before we get to the end.*

lucy, 11:28

*maybe half hour?*

*11:29*

*OK half hour. Let's push . . .*

*lucy, 11:29*

*Lets squeeze a little*

*mh, 11:29*

The properties and possibilities of **biological systems and environmental systems** have achieved prominence in the years since the radical science heyday in the 70s . . . Your own field of study . . .

Do these bear in any way on the possibility of 'a third radical science movement'?

Yes, I can imagine that layers of bureaucracy (and corruption?) may be big impediments.

*lucy, 11:31*

Yes, I think so. It at least shows a positive changing .

*mh, 11:33*

Biotech is clearly a field of struggle now. Does it seem to be a field of radical concern? You've suggested that it may be, among informed researchers. How about among non-specialists, ordinary people?

*lucy, 11:35*

The main concern in Chinese society on biotech is definitely GM.

*mh, 11:35*

GM in agriculture? Or in human genome also?

*lucy, 11:36*

My mom send me article about how to distinguish GM from non GM a lot. And oddly I cant persuade her at all . . .

*mh, 11:36*

She's concerned - but not well informed? Half way there!

*lucy, 11:36*

Human genome is not a debating now, even after the human embryo editing experiment happened in China in 2016, there are very few people talk about this.

**Because of the intimacy. People still feel this is far away from their daily life.**



mh, 11:39

You're raising interesting Qs about **Chinese awareness and 'the body'**, connected to different expectations of living close together.

mh, 11:37

I have a hunch (not well informed) that some Chinese genome labs are very willing to push practical applications?

lucy, 11:37

And I knew many people accept stem cell therapy in China without any concern. Maybe it is easy to publish in high level journal. And also easy to get patent and clinical credit. This is a big topic of the research culture in China

mh, 11:39

Lots of 'professional push' and 'world leader' forces on the loose in human genome?

In my mind at this moment, I've a strong image of very ambitious professional elites in some areas of Chinese science, who wouldn't give a damn about 'popular' points of view, or 'participation' in governance - except when it means they get more influence on funding?

lucy, 11:42

haha, very vivid

mh, 11:43

Another area . . ., the properties and possibilities of **computational systems and telecommunications** have achieved prominence. Do these bear in any way on the possibility of 'a third movement'? Globally, this is a major part of the expectation of P2P culture as an alternative form of production and social organisation. How about China?

'The open internet' etc. 'Platforms'. 'Design global, make local'. Etc

lucy, 11:46

In China, the P2P and internet changed people 's living style dramatically, especially in the big cities. But I cant see any change in academic area

mh, 11:48

Social media is the obvious 'tip of the iceberg'. And in the West, social media are an 'enclosure' of the free internet - a privatised field of data traffic that is exploited by capitalist corporation to make megabucks.

lucy, 11:45

Did you notice that the EU's research agenda will go to open science?

mh, 11:46

Would Chinese researchers back 'open science'?

lucy, 11:48

I think this is a good concept. China will accept it in its own way.

mh, 11:49

However, activists around the world (including software hackers) expect to use the capability for social organising, coordinating direct action and direct P2P economic cooperation. A typical framing is '**the social-solidarity economy**'. To be built through P2P collaboration, in towns and cities, through local organisation of production (for example in food supply, in education).

Includes local currencies, to keep wealth within a region instead of 'leaking' out into the global market

lucy, 11:51

Yes, it is a process of pursuing equal right.

mh, 11:53

P2P activism around the world takes internet technology as a basic political freedom, to be developed and defended. How does it seem in China?

Hackers? Local cooperation in food supply? Activist networks?

lucy, 11:56

In China, internet is under control I don't know so much things about that.

mh, 11:57

I am very impressed, that you and I can have this three-hour conversation, via the Chinese internet.

D'you think that algorithms are analysing our traffic?

lucy, 11:58

haha

Might be. I am careful

mh, 11:58

Seriously. It's remarkable, compared to twenty years ago.

lucy, 11:59

In the US, in last year's 4S, I think people are calling for activist.

mh, 11:59

It makes the world (for action) a whole lot bigger, with a whole lot more to study and listen to. Equally, more minds at work, on common issues?

lucy, 12:00

The keynote speakers - one came from Latin America, I can't remember her name - use Spanish to do the presentation. The other researcher, is doing research on the refugee from Syria. And in several American universities, making by doing, participate, is really very very important.

mh, 12:01

I can imagine that in US. D'you feel that this kind of concern is felt by STS people in China, at a personal level? Even if they can't put it into their official research projects?

lucy, 12:02

Nope. Not in China. Maybe in environment studies, such as the smog in Beijing.

I remember a Cornell professor, said, don't think about your publication too much, think about what you are trying to do , to change. It is similar with the radical in 1970s

mh, 12:03

The Cornell professor is EXACTLY where I have been in my 'life in STS'! Mostly outside (official) STS. But continually doing R&D and trying to be rigorous - which is not quite the same as 'academic'?

lucy, 12:04

You keep radical!

mh, 12:05

I kept radical. Also, professionally marginal. Also, middle-level income.

lucy, 12:05

haha, that is extremely cool!

mh, 12:02

Once more, I get a strong sense that 'participatory research' - across the government silos and professional silos - may be the state of the game in China?

lucy, 12:02

Yes, I think you are right

But it is **different in Taiwan**.

mh, 12:04

Important things going on in Taiwan. I was pleased to see Lu and Li presenting at an East Asia research gathering, in Taiwan. This kind of regional alliance must be significant?

lucy, 12:04

I think it's the time. That is really something.

No, the presentation was in Tsinghua, Beijing, 2016

lucy, 12:05

We have close relationship with STS people in Taiwan, but we do things differently.

mh, 12:07

Lu & Li paper is copyright Ministry of Science & Technology Taiwan?

lucy, 12:08

Because the EASTS journal is funded by Taiwan government.

We should find a time to talk about you more.

12:07

Next interview!

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### 3 Wrapping up

OK, wrapping up today

I'm SO impressed and thankful for your ability to work at this high level in this language. Thank you.

lucy, 12:08

O, I am so happy that I learned so much with you. I have write lots of thing in my notebook.

I almost finish my paper on BSSRS. I will publish in on the journal of Dialectics of Nature.

hahaha

mh, 12:09

:-) I really am fascinated by DoN. A contested territory, I think.

What dates do you suggest for **one (two) further sessions** Lucy? Soonest. Please exclude Tuesday Otherwise, all days this coming week are possible for me

lucy, 12:08

Ok. **I will email you to set up a time ?**

mh, 12:10

Yes please, suggest times by email. We'll need **two sessions** to cover this same ground 'in reverse'. I'll do a rough edit on this stream today, and send to you in Word, as before.

lucy, 12:11

ok great

dig where you stand

diner, and prepare to see the world cup haha

mh, 12:12

Another 70s slogan - Keep on keepin' on.

Bye for now. Have a good evening TV watching. A walk in the sunshine for me

Bye

lucy, 12:13

bye

mh, 12:13

To think about . . . Does it affect your thinking, to see a Chinese 'Second' movement as being a global 'Third'?

lucy, 12:13

First, we have to make a agreement on the global third? **What its character, and core?**

mh, 12:14

You will be part of **making** it. But you will call it 'Second' :-)

lucy, 12:15

:)

mh, 12:15

Go and get dinner!

lucy, 01:07

I forget to tell you that in China, the government advocate mass entrepreneurship and innovation from 2015. it is quite controversy on this. Many university students open business, but fail. But still , **it release some energy** from the public.

## Part 3 : 2018 07 22 - mh & lucy Skype chat

*Lucy interviewing Mike on Skype*

- 1 70s - Radical science and RSJ, proto-STS at Sussex, radical-professional knowledge-based activism in industry
- 2 80s - GLC, radical science now in the background, labour-process, 'alternative knowledge production' and technology infrastructure in the foreground. Political choices/career choices/life choices
- 3 mh overall trajectory - 70s/80s/90s -Especially 90s, in STS
- 4 The First radical science movement
- 5 Brief return to the present time, within a longer historical timeframe (150-200 years?)
- 6 Wrapping up

*lucy, 09:00*

Morning

*mike: 09:00*

Hi there :) Thanks for calling me up. Are you still travelling?

*lucy, 09:02*

Yes, in a small town by the sea . . . Where shall we start? I should ask you questions?

*mike: 09:02*

Yes, it's your turn to be questioner :) Go ahead

*lucy, 09:03*

Ok, first, how do you connect with the first movement?

Is that the question? I will look up for the question list.

*NOTE: This question gets lost until 10:47 below!*

*mike: 09:03*

OK. While you look up the list . . .

I was born in 1946. STS began to develop here in the 70s. I first entered STS in the 70s.

*lucy, 09:04*

Yes, talk about your working trajectory

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## 1 70s - Radical science and RSJ, proto-STS at Sussex, radical-professional knowledge-based activism in industry

mike: 09:04

In 1969 I left a job in the chemical industry and enrolled for a Master's in history & philosophy of science, at Sussex. Then went on to a DPhil in history & social studies of science. It was a small department, attached to the school of maths & physics. There were almost no STS/science studies departments at that time (Edinburgh had one).

lucy, 09:05

What drives you leave chemical industry? And what do you learn in the early 1970s?

mike: 09:06

I was disgusted by the commercial environment. Particularly, I disapproved of the aim of the company, to double the amount of plastic in the average car, in 5 years time. It seemed a complete and utter waste of my effort, I was sickened by it and lost any motivation to find 'success' in the corporate environment. I wrote about this epiphany in 'Activists and the Long March Home'.

*NOTE: I'll send you the extract.*

*Note: Epiphany = a moment of sudden revelation or insight*

lucy, 09:07

omg

Your major in the university is chemistry?

mike: 09:07

1st class BSc in chemical engineering.

lucy, 09:05

What do you learn in the early 1970s?

mike: 09:07

At Sussex, SPRU was a related group. Not very old at that time. But in fact, the Radical Science Journal collective (RSJ) was really where I "studied"

lucy, 09:10

Ok, from when did you started work in RSJ,? Or we should slow down. Let's talk about what did you get from Sussex?

mike: 09:12

Yes, slower! Actually, I studied two things. For my PhD is started a **historical study**. Post-war development of Operational Research (OR). I was working in library archives and interviewing practitioners/professional leaders. The investigation became *philosophy* - the thesis title was: *Operational research and the forces of production - A Marxist analysis of science and ideology*. Actually, I would say now, not philosophy . . . *methodology* in knowledge-production. The beginning of my study of 'theory-of-practice'.

lucy, 09:13

interesting. Like what Mackenzie did.

mike: 09:15

The **other 'study'** was the agenda of RSJ - science and ideology, marxism and science (70s-style not 30s style), New Left integration across radical disciplines, connections with the US radical-science movement, psychoanalytic approaches, feminist approaches. Opposition to 'use and abuse' - which we felt included the Roses. RSJ was a 'Left' world. My thesis was a 'knowledge practice' world. But I framed the theses very much *in RSJ terms*, and very much *against my own corporate background in industry* as a technical-professional. It had little to do with any 'science studies' position taught in my department or foregrounded in BSSRS (Popper-Kuhn, emerging environmentalism, Limits to Growth, intermediate technology, anti-war), or with history of science as a field.

RSJ was what really developed the 'STS' connection. I use quotes, because STS did not exist at that time. But that kind of theorisation was supported by RSJ's culture, and it was very broad, theoretically and methodologically. My academic setting had very little influence on the way I conducted the investigation, my supervisor was a conventional historian of science.

lucy, 09:17

Ok, after you graduate, what did you do ?

mike: 09:17

When I graduated with my undergraduate degree I went into the chemical industry, on a two-year "graduate apprenticeship" - four placements within the company in two years, to see which area of engineering work was most appealing.

lucy, 09:19

So after phd you went back to the industry but for a totally different goal. You want to spy what happen in the real industry?



mike: 09:20

I left at the end of the two years. Being a corporate person wasn't appealing! Following corporate goals wasn't appealing. It was "ethical" - actually, *aesthetic* - rather than "political". The politics came from the radical environment on campus at Sussex. And specifically, from Brian Easlea.

mike: 09:23

In 1974 I went back to the same company, in an OR role this time. Not to 'spy', but to organise. To be a trade union activist. The inspiration came from the Lucas Aerospace shop stewards' alternative plan. The union activists in that company developed alternative plans for products and technologies, anti-war, environment-friendly, to defend their jobs against redundancies. Lucas Aerospace was in the military-aerospace sector. I wanted to attempt to develop 'workers counter-knowledge' in the same way, in the industry that I knew.

lucy, 09:25

Fascinating! So how long have you been working in this company, and why do you leave?

lucy, 09:21

Maybe you should talk about Brian Easlea more, and how did he impact you ?

mike: 09:27

Brian . . . was a pioneer of 'social studies of science. He taught the Popper-Kuhn-Lakatos-Polanyi debate, which was controversial. He was interested in early science, around Newton's time, and anthropological perspectives (Mary Douglas) on other competing modes of knowing (eg witchcraft). He taught Marxism and, historically, the switch of capitalism into Keynesianism. So, a broad historical agenda.

I spent a lot of time with Brian in one-to-one. But in fact, it was RSJ that influenced my ideas more. Brian's influence was mainly in his anti-capitalist passion, and his belief that there could be a 'beautiful' science that would work for liberation. Passion, and aesthetics, rather than actual conceptualisations came from Brian? The conceptualisations came from 'new Marx' (*Grundrisse*), from a *Capital* reading group, from the French neo-Marxist area (Althusser) and after a couple of years, from 'labour process' theorising as it emerged among social economists. Most of these (apart from Marx) were not particularly things that Brian was involved in, but RSJ was.

lucy, 09:28

when did you join BSSRS, and have relationship with RSJ?

mike: 09:29

I joined the local branch of BSSRS within the first year at Sussex 1969-70. Probably Brian pointed it out. Again through Brian I became involved in the group that became RSJ, which was based in Cambridge around Bob Young.

lucy, 09:31

Can I get electronical RSJ now?

mike: 09:32

Members of that proto-RSJ collective became involved in organising a conference on *Workers' Self-Management in Science*. The self-management influence came strongly from revolutionary movements in France, "Mai-68".

Don't think there's a digital RSJ archive. But the emerging Wellcome archive might possibly digitise some stuff - I don't know their plans.

lucy, 09:33

Ok, I see. I only photo the SFP journal in the science museum.

lucy, 09:31

So you travel from Sussex to Cambridge ? when you have meeting or so?

mike: 09:32

Members of that proto-RSJ collective became involved in organising a conference on *Workers' Self-Management in Science*. The self-management influence came strongly from revolutionary movements in France, "Mai-68".

lucy, 09:33

Yes, I have read some article pointed out the self-management movement

mike: 09:35

Several of us travelled from Brighton to Cambridge. Once, maybe twice. Then Bob (Young) and Margot (Waddell) moved to London, and meetings were in London after that. We had one meeting in our flat in Brighton, and the first RSJ edition was pasted up by us all collectively, over a weekend, at a printer's in Brighton.

lucy, 09:35

How long have you been enagaging with the RSJ group? What did you do beside the journal?

lucy, 09:35 - Lost question!

How long have RSJ been publishing, and how large of the each printing copies? How should we evaluate this journal now? Comparing the the radical technology , and Science for People?

mike: 09:38

I was involved nominally in RSJ until it ended. But in 1982 I started work at the GLC, and this took up more of my time. And RSJ was fading - to become *Science as culture*, which was Bob and Les Levidow. I don't actually remember the end of RSJ, I was focused elsewhere. We (my wife and I, our baby) moved to Manchester in 1974, to be a radical trade-union activist, 'a subversive'. But kept my involvement in the RSJ collective, travelled to London for meetings, edited articles, drew graphics for the journal - several of the early covers are my artwork.

So RSJ was paralleled at first by my DPhil research. Then by my chemical industry activism. Then by completing my thesis (in Manchester, where we then lived), then by the GLC (we lived in Crawley then, near Gatwick airport, moved there because of my wife's employment).

lucy, 09:39

GLC, the Pharm?

Artwork - cool.

## 2 80s - GLC, radical science now in the background, labour-process, 'alternative knowledge production' and technology infrastructure in the foreground. Political choices/career choices/life choices

mike: 09:39

Ah, GLC = Greater London Council - the administrative government body for the whole of London.

lucy, 09:41

OH, The famous great London council.

mike: 09:41

I knew three of the five founding members. It was a very interesting Left thing to do in the early 80s - to run the policy for a city from socialist principles - when Margaret Thatcher was in government just across the river, in the Houses of Parliament! It was very provocative! It was an adventure I very much wanted to be involved in. My chemical industry trade-union involvement was more or less fizzled out.

One of the founding members was the main figure of Lucas Aerospace, Mike Cooley.

The director of this GLC group was Robin Murray, who I knew from Sussex as a radical economist in development studies, and an inspirational thinker about 'labour process'. I knew Hilary Wainwright too, from the UK circuit of trade-union and community resource and information centre activists.

I was in the second cohort of people to join the group at the GLC.

lucy, 09:43

So what do you do in GLC? It had a very socialist policy agenda?

mike: 09:46

So by this time, '**labour process**' **economics and industrial infrastructure** had become a core issue in my intellectual-political life, rather than 'science'. *Technology policy* in a sense, rather than 'radical science'. However, my focus on science - by 1980 - had become a focus on *knowledge production*, and alternative forms of knowledge production (this was how my PhD analysis worked out) in capitalist and socialist practice. So that was part of the orientation at the GLC. **Radical knowledge** rather than simply radical science. By the mid 80s, 'the knowledge economy' was being used as a general term, though there was no consensus on what this meant; it became a much bigger term in the

90s, with 'knowledge intensive business services' becoming a focus of attention, for example. I did conceptual work in the GLC, about 'the knowledge economy', which was based on thoughts I'd developed in the 70s as a grass-roots activist in the chemical industry, and put into *Living Thinkwork*, which was published in 1980: ideas on 'liberated time', and the total amount of 'professional-managerial class' labour mobilised by capital (eg in London), compared with the amount of 'workers' knowledge' labour that might be facilitated or funded (eg by the GLC).

As a grassroots trade union activist in the 70s, I had become part of national networks of Left community activists - from the government-funded Community Development Programme. Many people from this 'training ground' were in the GLC, so the *roots community-organising focus* was also part of my continuity at the GLC.

'Radical science' was a fairly marginal concern for me by the mid 80s. I never had been that excited by the 'science and ideology' discussion even though it took so much of RSJ's energy (Bob Young's especially, as a historian of ideas), was always more concerned with knowledges of workers within corporate environments, in 'technical' sectors or - from the mid-80s, when 'new technology' began to come into workplaces - in relation to IT-based work infrastructures. Even though 'science and ideology' are in my PhD title, I saw this as a question of producing radical (socialist) knowledges, through forms of socialist practice (the labour-process orientation). It wasn't about a battle of **ideas** at all (this is where Brian's orientation wasn't satisfactory for me), but a battle of **practices**. This is my *materialist* orientation. Historical. Materialist. Also *cultural* in a sense of 'cultural production' and alternative production of alternative cultural formations ('knowledging' formations).

I think I was the only member of RSJ to have a practice outside of academia, teaching or a science profession. Actually, no, Peter Harper and Chris Ryan were 'practical' too, but in ways that led them to leave RSJ's marxian theorising environment and commit to radical technology-development and alternative low-energy, self-sufficient living practices. Although we all 'left' RSJ's London-based orbit, geographically and 'sectorally', I remained involved practically (as a 'labour process' advocate-theoriser) while Peter and Chris left completely and became *design* and *low-tech practice* and *energy-politics* oriented. It was my *corporate/wage-work* lifeworld that put a distance between me and folks like Chris and Peter, whose lifeworld was more about independent alternative ecologically-informed *living*. Of course this is a political difference and a political choice, but not quite the political difference that it might at first seem to be (around Marxism, and ideologies). To a degree I see this as a matter of temperament and personal identity rather than political ideology. I was a wage-worker at

heart, from an industrial background? Wanted a corporate enemy to kick against and undermine? Wanted a wage rather than to launch an independent venture. Wanted to maintain an association with the labour movement rather than with R&D in an S&T/innovation sense. Chris and Peter differed in all these respects. Politics are not necessarily quite what they seem. Life choices! Temperaments. Class identities.

See 2016 correspondence between Peter, me and Zac Bharucha.

10:06

I personally never felt that 'alternative living' was for me - communes, living off-grid, growing food, windmills, etc. So I chose prefigurative practice in the domain that was 'mine': the corporate world of industrial production. I became focused on industrial technology infrastructures, workplace systems of tools (especially in the late 80s, as computers began to enter workplaces), alternative forms of corporate organisation and knowledge-production within organisations - self management of industrial work, not (hierchical, professionalised) "management".

lucy, 09:49

Did you still join the BSSRS activity, or read their journal?

mike: 09:51

I stopped paying much attention to BSSRS once RSJ started. I read *Science for People* but felt it was just a newsletter, not doing serious analytical work, as RSJ was. I did write a critical review in RSJ, of two BSSRS leaflets, around 1980. I will send you copies of my RSJ stuff from those years. Pushing a very specific kind of line, about alternative professional practice and 'detached' partisanship in research.

lucy, 09:54

ok! thank you

lucy, 09:49

Can you help me to distinguish socialist ideology of knowledge and capitalist from your point of view?

I cant really answer this question. So I want to hear your answer

mike: 09:51

OK, socialist and capitalist forms. That's a BIG one!

Basic, I think, are the Marxian notions of *forces of production* and *relations of production*.

Forces of production **FOPs** are practices, a web or fabric of practice, that materially constitute everyday life and work including 'the

economy' but also 'culture'. Relations of production **ROPs** are the historical forms that give shape at a deep level to how the fabric is woven, how practice are able to connect, what people are able to work on, what resources people have access to, what the aims of production are. Etc. So socialist activity is activity that attempts to weave *alternative* ROPs into *actual webs of practice*. 'Prefigurative' was the term for this in the 70s. The focus is on practices, and the construction of alternative webs of practice (in economic activity, in culture, in government) organised under different social relations - even though the surrounding society is organised by relations of *capital*.

lucy, 09:59

Prefigurative (mike hales, Today at 09:58)

that is really interesting1

through practice, changing the existing ROP for alternative

mike: 10:01

Capitalist ROPs - wage labour, private ownership of means of production, extraction of surplus value, realisation of surplus value as capital (money that simply makes more money).

Anti-capitalist ROPs - collective self-management of means of production, work in which workers retain control over their own direction and purposes of work, surplus value that is directed to social purposes ('use value') rather than expansion of capital (via exchange value).

Prefigurative was a key to all (?) **radical-professional** practice in the 70s movements. It was the basis of the radical technology movement - production of alternative *actual practices of living* (food production, energy generation, housing, transport, localised trade). In their particular sphere, Peter and Chris engaged in prefigurative practice too. It wasn't called 'socialist' (they might have said 'anarchist'? probably 'environmentalist' would have felt more comfortable?) but it was prefigurative anti-capitalist. This is the common ground of 'radicalism'.

lucy, 10:06

Do you think self-management is a little bit closed community, that only care the own community and its value?

mike: 10:08

Closed community? That's complicated. I believe that many coops, for example, can become focused on their own work and the benefits of their own commercial activity to themselves. Consumer coops at least.

It never occurred to me that self-management could be small-scale and closed. For me its about organising the whole of work and society to meet the needs of the people who ARE the society and who ARE the animators of the forces of production. Very large-scale and open.

I think it has to be said the self-management was (is?) very much a principle, rather than a particular form of social organisation. Partly, this is because that term is used in the context of highly corporate work - science, industrial production. It's used as an expression of oppositional values and intentions.

10:12

In actual communities of self-managed practice - for example in the radical technology domain - I suspect that that terms like participation or community or collaboration were used. 'Self-management' exists very much as a principle (a ROP?) opposed to professionalised hierarchical management by *an elite section of the labour force, inside corporate organisations of industry, commerce or government?* Today, *collaboration* is a term that carries a similar intention, within 'solidarity economy' movements for example, or 'free code' movements, which are quite entrepreneurial, existing outside the framework of wage-labour in large corporations. They operate by federation, and flexible allocation and self-allocation of work, as work proceeds. Self-management was a 70s term (along with workers' control) that is little used today. But I always found it useful, to set against the very visible presence of (elite, corporate, professionalised, 'collectivist') 'management' in industry and in the State. Especially when working in a business school in the 90s! It was a way to attract allies in an alien environment.



### 3 mh overall trajectory - 70s/80s/90s - Especially 90s, in STS

lucy, 10:12

OK. Maybe we should go on.

lucy, 10:13 Lost question

What happened to you when the GLC stop working?

mike: 10:12

This could go on a long time! I'll just sketch an overall trajectory.  
Regarding my participation in STS

lucy, 10:13

Yes

mike: 10:14

In the 70s I was involved was recent history of science 'as culture' - production of knowledges in corporate settings through various forms of social organisation. Not natural science. Practices with a 'scientistic' ideology, in the corporate and economic sphere.

I was very involved in historiography.

Also, in 'culture' theory. This was pretty unusual in 'radical science'. But for me it was obvious that sciences and technological professionalised practice were 'cultural' formations, producing cultural outcomes. I was utterly un-interested in the Popper-Kuhn debate!

lucy, 10:17

haha

mike: 10:17

I also began to be concerned with **methodology** (as 'knowledge production' methodology). My thesis was a methodology thesis I guess, with a explicit radical orientation to alternative *knowing* (note the verb form, not the abstract noun, knowledge). 'Marxist' in the title of the thesis was more a badge of radical affiliation than an accurate guide to its analytical frame. *Forces of production* turns out to have been perhaps the most significant and long-lasting theme hinted at the the title: differently organised forces of knowledge-production (ie different RoPs), different resulting knowledges and capabilities, differently reconstituted forces, etc, recursive. In a sense it was a labour-process version of 'the social construction of reality', which was a fashionable and intellectually (not politically) radical framing of thought in the

70s (Berger & Luckmann 1966). Postmodern. Precursor of many positions in 'anthropological' STS from the 80s onwards.

So that was the 70s.

In the 80s the main frame for me was local economic development, and increasingly, IT. 'The new technology' as we called it! So, more like technology policy.

Then in the 90s I made connections with people like Lucy Suchman.

I was working then in a business school (back in Brighton). Concerned with self-management - *participatory methods* of development for *skill-enhancing workplace IT systems*.

10:23

And by this time I had (in the 80s) discovered Scandinavian R&D communities who had these aims. 'Participatory design', design circles, 'the collective resource' tradition, 'work-oriented design' of workplace IT systems as skill-enabling configurations of tools. Then in the 80s those European communities joined up with anthropologists working in US corporate labs . . . **radical anthropologists** graduating in the late 60s who were committed to "study up" in locations of urban and industrial power, rather than studying those "below", which is what orthodox, **colonial** anthropology had done. A radical anthropology movement arising in the 70s. Ethnomethodology, for example, was in a way an intrinsically 'human centred' perspective on technology design and use; certainly intrinsically anti-functionalist and anti-scientistic.

lucy, 10:21

How did you connect with Lucy Suchman?

That is so rich and different of your personal experience

10:27

I am so innocent . . .

mike: 10:23

I first met Lucy and other colleagues from her lab at Xerox PARC ('Work Practice and Technology') in Amsterdam, 1992. ECSCW - European meeting of the Computer Supported Cooperative Work research community. Met Leigh Star there too (then at San Diego? or Michigan?) colleague of Anselm Strauss, interactionist sociologist and originator of 'grounded theory' methodology.

This was an entirely new community for me, knew no-one. But had a strong hunch that CSCW was a place where radical work could be done. Some people focused on CS (Computer Support) and some focused on CW (Cooperative Work). It was the latter people who were the radicals; not just sociologists and anthropologists but also interaction-designers

like Liam Bannon or Susanne Bødker, coming from HCI (human-computer interaction). Excitingly cross-disciplinary. Some very bright thinker-investigators (many feminists) who'd been postgraduates in the radical 70s. A couple of CSCW people at ECSCW had read my book *Living thinkwork!* It was good - and intriguing - to feel the circles joining up, to find radicalism in this new field - especially in corporations - and to connect in a practical way with traditions of critical, 'anti-deskilling' design from Scandinavia (eg the 80s 'work-oriented design' approach of Pelle Ehn and colleagues in Denmark and Norway).

10:27

After 1992 I was invited (by a friend of Lucy's who was working in England) to join an 'invisible college' of US and Scandinavian radical researchers who met at Oksnøen in Norway in May each year. I joined their second meeting in 1993. Lucy S was one of the two organisers, an anthropologist, in a US corporate lab; the other was Elin Rønby Pedersen, a IT systems researcher-developer in a Danish university computer science department. Lucy was very important as a networker and rigorous intellectual presence. And a lovely committed person, working 'in the heart of capitalism' at Xerox PARC in Silicon Valley. Given my corporate background, exactly the kind of person I was looking to hook up with! Lucy, Susan Newman and Julian Orr at WPT became particular friends. On the Scandinavian side of the Oksnøen connection, Tone Bratteteig (a feminist system-developer in Kristen Norgård's department at Oslo university) was a particular friend - one of the first participatory designers I'd heard about in the 80s (Bratteteig & Bjerknes, 'Florence' project). There was a great feeling of solidarity in this transnational community.

The Oksnøen symposium continued for six or eight years. It was my main peer group through the 90s, a terrific community to be in.

lucy, 10:21

Are you a lecture in Sussex University business school? Did you publish article during 1990s/

mike: 10:27

I never managed to get CSCW funding from the UK government for my own research (action research). So eventually I had to drop the CSCW/ participatory focus, and go with the main direction of my research group at the university - which was innovation management.

So in the later 90s I was involved in European NIS research (national systems of innovation). I participated in a Euro project on innovation services, and then in 1998-2001 I organised another one. Sadly my connection with Lucy and the ethnographers and interactionists got weaker then, we remained friends but were unable to work together across

this difference in framing of research issues. My new colleagues were innovation economists, S&T policy researchers.

10:36

Now funded by research grants in European collaborations, this meant that I had less scope to choose what I worked on, and the choice of focus was distinctly less radical than I wanted. Even so, I tried to develop an alternative focus in the NIS work, by bringing a materialist, labour-process, ethnomethodological-anthropological approach into projects with innovation economists. That was hard! I tried to theorise the 'delivery' of knowledge intensive business services in a labour-process way, as **production of competences**. And to re-theorise an NIS as an economy of *services of competence-supply and competence-production*. I have final reports in ResearchGate from this 1998-2001 project, RISE (RTOS in the Service Economy).

lucy, 10:31

So it's like that your relationship with STS is **practicing** while you're **theorizing** them.

Yes, I have translate the NIS book into Chinese , the Lundvall one, few year ago.

Mike: 10:32

Translated Lundvall, wow! well done! :)

My intention, when I went to the business school after leaving the regional-government policy-development sector , was to do 'action research' - my own description would be 'theory of practice'.

So yes, always trying to theorise some kind of practice - especially including **our own practice** as 'radicals' or organisation developers, or innovation researchers. Whatever, always **reflexive**, theorising our own practice in its relations with the forces of production, and possibilities for introducing alternative RoPs and escaping capitalist RoPs (even if just locally, and for a time). Prefigurative.

In order that we might become able (skilled, experienced, conceptually-equipped, with historical stories to tell) to conduct some different, progressive kind of self-management oriented practice.

lucy, 10:33

Do you think you are still radical by 1990s?

10:36

After the collapse of SU, do you think the whole environment changed for radical thought?

10:34

after this question, I think we should go to the left scientist movement 1940s

mike: 10:36

Personally, I don't think the SU had any influence on radical intentions in my peer group. The SU was never a 'radical' project, during my lifetime, I never knew anyone who supported Soviet communism. The admiration of the 40s generation had all evaporated and a New left had taken its place in the 60s. The biggest impact on radicalism during those years was neo-liberalism, as ideology and also as government policy . . . changing the economy, outsourcing, off-shoring, deregulating, undercutting the security and traditional status and organisation of professional workers of all kinds, making them more 'proletarian'. The beginning of what is now called 'precarious' work.

lucy, 10:39

Then how do you evaluate your effort for the radical intellectual activist?

mike: 10:39

I'm sorry, don't quite understand. Ask again?

lucy, 10:40

How do you evaluate your work on these radical practice?

mike: 10:41

I'm glad to have moved so widely across 'sectors' of activism and the economy.

lucy, 10:41

what drives you still working on related issues now? the third wave?

mike: 10:41

I feel that my focus from the 70s on *production of knowledges under other ROPS* was a strong and wise one, and it still is the basis of my practice now. It was a very good hunch.

The focus on practice and theory of practice ('materialism') rather than 'ideas' is something I'm very happy with. The 'turn to practice' in 80s and 90s studies of science and technology was something I was very ready to engage in. I had written a 'turn to practice' book about work-practice design as *cultural production (Living Thinkwork)* in 1980!

Earning a living as a wage worker - notably in the 90s, as a contract-research academic - made it hard to adopt the 'radical' research-&-development 'action research' focus that I might have wanted.

On the other hand, that meant struggling to find radical possibilities in a field of work that wasn't my own choice - for example, trying to be 'cultural materialist' within a community of innovation economists and

pragmatic 'best practice' 'continuous improvement' catch-up-with-Japan manufacturing-innovation academics!

What drives me now is the passion for liberation. Skilful production and facilitation of wise self-knowledge among people in everyday life and work. Still, theory-of-practice. Still, self-management. The end of the rule of capital!

*lucy, 10:45*

the end of the rule of capital

*mike: 10:46*

In the past short period (a year, maybe) I do see very important movements globally, that I have aligned with, and am now participating in. The movement for 'the commons' and peer-to-peer production. The movements are ten years old, but I have only become aware of them in this period, I wasn't looking in this direction until I discovered a few things about a year ago.

Is this the Third Wave? It could be, if enough effort is put in. Not Marxist exactly. But a historical/cultural-materialist relationship between cultural and technological and historical dimensions of the changing forces of production is crucial.

*lucy, 10:46*

Do you have any recommend article that describe self-management in knowledge production?

*mike: 10:46*

I'll have to think about that. The brief answer is no, I'm sorry. But something I've written will walk around that idea in various ways. Let me think and tell you another time.

*NOTE: Find something on this.*

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## 4 The First radical science movement

mike: 10:47

How about the First radical science movement?

And timing - how's your timing Lucy?

lucy, 10:48

yes. Let go on. I have to go in 40 minutes. I think we could still have a good talk on the first movement

mike: 10:49

Yes let's wrap up this theme before you have to go?

The 'Left scientists' were quite real for me as a PhD researcher in the early 70s.

lucy, 10:50

O really

mike: 10:51

I studied primary documents in archives - magazines and popular paperback books, mostly. And interviewed people from that generation who were still alive - but none of the famous Left scientists. I did interview Sir Solly Zuckerman FRS - be he was very **not**-Left!

lucy, 10:52

how about freeman?

mike: 10:52

Oh yes, Chris was probably the only **Left** person I met from the Left-scientists' generation (and had conversations with at Sussex in the 70s), a very young member of that generation (born 1921), ex-communist.

*NOTE: I'll send two 2010 obituary notices on Chris. A very significant person.*

In 1970, Gary Werskey suggested that my ex-engineer's interest at the time (cybernetics) could be followed by looking at the emergence of OR. The Left scientists were key people during WWII, in creating this innovative form of investigation in 'live' army, navy and airforce settings, leading to actual military plans, actions and operational procedures. OR was adopted post-war, as a civilian-industrial mode of practice.

lucy, 10:53

OR? open resource?

mike: 10:53

OR - Operational Research, sorry.

lucy, 10:54

So the left scientist are the key person that actually influence the war and the warfare?

mike: 10:56

Because they believed that science was basic to running society sensibly (empirically founded, analytically rigorous) they were willing to participate in operational involvement in the army navy and air force in the war years. One leading figure spoke of 'avoiding running the war on gusts of emotion'.

I always felt the idea of 'rational war' was disgraceful! But I can see how their ideology made them willing to serve in rationalising an 'unscientific' field of practice, especially in the face of a conflict with a fascist enemy which had strong technological forces based in the German university and *technische Hochschule* institutions. This rationalist belief was very Bernal!

As I began to see what had happened to the practices that they promoted in the 40s, I was very critical. I saw the practices in the 50s and 60s simply as being improvements in the functioning of consumerist, technically-informed, science-based capitalism. And the 'Left' scientists really just wanted more money for more scientific research. So when the crisis of Fascism and the war was over, they went back to their labs, and got Nobel prizes or whatever. They were happy to 'do science' rather than 'be radical'.

I felt that the ideology of the Left scientists - including their adoption of hard-edged, scientistic Soviet historical materialism - had absolutely nothing to offer. I was ashamed of them.

The marxisms of the 70s were so much more promising. And the Leftism of my part of the New Left was so oriented to *being a worker* (of a new educated kind, a 'new working class'? this was a 70s debate) alongside other workers (who were very active and innovative in the 60s in grass-roots shop-stewards' movements within the trade-unions). As distinct from doing things **for** workers, abstractly calculated to make lives better. It was a shift of class identification. (See 'collectivism' and 'associationism', section 4 below.)

lucy, 11:03

so the historical reflection on that "Left science" movement didn't influence your own broad perspective (on the development of science studies)? Has it influenced your working approach to historical research? maybe in an opposite way,



11:15

There are some advocate to do family history now, because I didn't see any work

mike: 11:16

Specifically within this 70s perspective, for me, was an awareness of the historical emergence and consolidation of *professionalisation* over the preceding century, and the shaping of government and industry by this, including the administration of the welfare state. For me, from the early 70s, there was a very distinct anti-professional orientation. (Thus **self** management, as a counter-hegemonic force to established, hierarchical, capital-serving management).

The history (and present-day existence, and possible historical significance of action NOW) of 'the professional managerial class'. This was part of my own historical awareness, as a young researcher and activist (first-generation university-educated, professionally-employed son of a working class family). "In and against the PMC"

Illich was important in sketching this. He was key reading in the early 70s. Not just Marx!

lucy, 11:19

OK, Illich

*(NOTE: See more on Illich etc, section 4 below.)*

mike: 11:19

Part of a wide class-recomposition within capitalism that was ongoing during the 60s and 70s.

*I have a half-written note for you, on 'history' and 'radical history', and significant absence of radical history (?) in China. Will add to our shared workspace soon.*

'Radical science' - for me - would not have had meaning without a broad 'radical history' context, to inform me of this wide cultural shift across several generations, which my own generation, and 70s 'radical professionalism' (and the First radical science movement) were part of.

lucy, 11:21

really. thank u

11:22

Do you think if we don't use the word radical history, if there any other vocabulary to describe this research approach?

mike: 11:23

Hmmnn. The term 'radical' was current in the 70s, as 'a good thing'. This has changed now, so that current Western ideology sees 'radicalisation' as a terrible thing - basically, becoming an Islamist fundamentalist terrorist! I myself value the word but it's hard to use today.

lucy, 11:25

it not hard. I mean if it is a trend that is shared by other historian as well

mike: 11:25

I believe that the concept of 'the commons' is very powerful. It has a fundamental ecological rationale as well as a political one (users of resources, having governance of those resources, in the common interest of all users and in the interest of maintaining the commons as a viable system - and system of basic contributions to everyday life and sufficiency).

So it's not a widely used word . . . but 'commoning' is a very good concept, which I see being deployed by some people with a very radical evolutionary-historical implication. It's a little bit technical maybe. 'Open, collaborative' are often equivalent terms. Easier to use - but less clearly oppositional, thus more compromised.

This is not a *historical* perspective. It's **ecological**?

11:28

'The commons' is a pretty strong notion. Promoting commons. Promoting commons sense, commons practice, commons governance, commons literacy.

lucy, 11:28

all right

I could understand radical history because in BSSRS , there is radical statistic, so on

mike: 11:29

Yes, at that time (70s) 'radical' has a wide usage and a (fairly) clear intention. But today - in the West - the term is muddier, and has been connected now with violent extremism. It may not be the same in Chinese?

lucy, 11:33

it is barely used in Chinese, but I think 激进 in Chinese is not positive

mike: 11:29

How about moving to 'Failure and success of the Left scientists' . . . ?

lucy, 11:33

yes, Failure and success of the Left scientists . . .

mike hales, Today at 11:30

mike: 11:34

The movement failed to become **socialist**. It became part of the apparatus of technocratic, R&D-powered capitalist accumulation. In its post-war heritage, the movement was Statist (as in science policy) and Corporatist (as in OR). The original politicised members left 'the movement' and went back to work, in natural-scientific fields. In OR, the generation that took over from 'the scientists', post-war, were 'professionalist' not Leftist, and quantitative, problem-encoding and -solving technicians rather than knowledge-producing 'scientific' investigators - by the late 60s they were trained in specialised university courses, university departments with professorial chairs, specialised repertoires of mathematical technique. So as a **political** movement it passed away.

lucy, 11:36

NOTHING to be claimed success?

mike: 11:37

Successwise . . the pre-war 'movement' became an establishment of science policy and technological innovation. Science got more, systematic, funding from governments. Scientists could expect to find funding for research projects, eventually it all became 'programmised'. So the radical Bernal vision of the 30s and 40s became the everyday military-industrial complex of the 60s, with its S&T policy, mission-oriented R&D, Big Science and funding apparatus.

It was *extremely* successful! As a vision of the (capitalist) future.

And as career options for future cadres of scientists and technical analysts.

lucy, 11:40

but as a failure for the whole society governance

11:40

I guess the Left scientists - Bernal especially - were just seeing the movement of the S&T-based FOPs under capitalism, being excited about this, and articulating this in a 'left' language, advocating mechanisms for further technological accumulation in FOPs.

They felt this was enough . .

(a) bcos they - as pro-Soviet Marxian thinkers - believed that the FOPs would burst the bonds of capitalist ROPs (standard item of belief in DiaMat) and revolution would occur; and

(b) bcos they believed that to practice 'scientifically' (in a natural-science, formalising, hypothesis-testing kind of way) - in any sphere of life - was a progressive thing to do, so they could feel good just about being scientists with more funding.

Governance wise - their model was what my historian friend Stephen Yeo calls 'collectivist'. They believed in professional policy making, professional administration, professional innovation, professional management and strategy. As far as public governance was concerned, statism combined with collectivism, to make them believe that a professionally run State administered through social-democratic process, was a good social order. *The direct control by people over their own lives and futures was not considered sensible, desirable or even possible?* That was one version of socialist vision - the 'collectivist' vision since the beginning of the C20 (as in Fabianism). The Left scientists were collectivists. And Left-collectivism gets on quite well with Right-collectivism - both worship expertise and retreat into 'neutrality' when faced with issues of political power and accountability . . governance in a significant social-historical sense.

That was the political shift in the 70s, among the 'new' left. Stephen Yeo sees this as part of an 'associationist' tradition, which re-emerged in the 70s (and may be re-emerging again today, in the movement for 'the commons'?). I've always been associationist, anti-statist, anti-collectivist. Goodness knows where that came from! There was no explicit political education in my childhood, no Labour history, no sense of heritage or anti-State sentiment. Quite the opposite, my parents generation thought the State was wonderful, it paid their doctors' bills and gave schooling to their children. It may have been part of a tacit personal sense of freedom, expansiveness and self-determination that came to members of the baby-boom generation like me, in the post-war welfare state, with free universal State-funded education. But associationism always just seemed obvious - it was part of the radical culture of my generation. 'In the drinking water.'

## 5 Brief return to the present time, within a longer historical timeframe (150-200 years?)

lucy, 11:49

Yes, and seems that the problem happened now, comes from the collectivism. The conflict between expert and public, different profession

*[mh query: 'participatory research' in China = cross-discipline negotiation for professional influence on policy agendas, within a technical elite? Yes, collectivism, for sure. 'Scientism is our default setting [for Chinese scholars].' Who said that? Quoted by lucy 09:50, 2018 07 14]*

mike: 11:50

Collectivism is a very powerful cultural force in modern society. Burnham's 'managerialism', Ellul's "technocracy", Habermas's 'technical rationality', Illich's hybrid statist-collectivist professionalised toxic culture – destroying vernacular knowledge, destroying conviviality.

It can be Right- as well as Left. Power worship. machine-worship, discipline-worship. Refusal of individual responsibility, corporatism. "Just doing my job", "just gimme the facts, maam, just the facts" – somebody else (the State machinery) will decide what is *right*. Separation of decision (the state) from direct production of society in workplaces; and separation of wage-work from (professionalised) decision within workplaces – and even in domestic life, on one hand through 'scientific' advice on how to run a home, care for children, prepare food, etc and on the other hand, from taking social care out of the community and family, and into the welfare state. *Deskilling of 'ordinary' life, in all directions, by the State and the professional-managerial class.*

This was a historical-political insight that was available to me in the early 70s, which I have followed (opposing!) ever since. It was part of feminism and libertarian socialism. But didn't, I think, become part of STS. STS did not draw on that kind of historical analysis. Of powers and specifically, of *class*. The postmodern basis of some STS may have been at work here? Insists on being a-historical, no 'grand narratives', equal rights for non-human 'actants'?

lucy, 11:52

DO you have anything else to say about first movement?

that is really a good point!!

Do you know any reference about this? Collectivism makes people Refusal of individual responsibility, corporatism. "

mike: 11:54

I think no specific, concise reference. To say again . . it was a very real presence for me as a young 70s radical researcher. An immediate sense of movements just a generation before, and how confused and mistaken they were (!). And still ongoing in my own time, but as part of *the establishment* now, no longer with any political radical relevance. Lost causes. Swept up in history, bought-off with personal and class gains.

lucy, 11:55

**Let's write something about that.**

mike: 11:55

I have a version of a chapter by Stephen that I will send you It's 20 years old and he has a newly revised version, but that's not available to me yet.

*NOTE: Send Stephen's 'Three socialisms'*

It was (?) the historical sense of my generation - of *ongoing* history, changing in *our own times* and our own lives, still *being made* - that made the Left-scientists interesting and relevant. They were very aware of movements in the FOPs in their time. They also were personally ambitious, as a class that had not quite become a significant class, and wanted to be (as they thought their peers in the Soviet Union were).

**Version of the same story for the 70s radicals?** Perhaps STS was the success/failure for the 70s radicals, an equivalent movement into professionalisation and careers? However, not as successful as the First movement, and there's much less power (?) in the 'culturalist' social construction of technology second-movement STS approach than in the 'science-of-science' science-policy 'success' of the first movement?

**Same story to recur today,** in the deeply evolving (deeply contradictory?) economy and class structure of **China?** Question mark!

Now, if we could get THAT story straight, that would be **interesting?** :)

But something a bit more modest than that I guess ;-)

lucy, 12:00

haha maybe

mike: 12:00

It's the **ROPs** that are the pivot. **Changing** them not keeping them the same. Prefigurative practice. Not merely 'innovation' = expansion and

deepening of **FoPs** under basically maintained (or “improved”?) RoPs. I’m thinking of new forms of FoPS, such as cloud technologies or flexible-specialisation within globalised supply chains, and Big Data/data analytics/pattern-recognition algorithm power (in FaceBook and Google, in the human genome) which have “new, improved” **post-Fordist** capitalist RoPS in them?

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## 6 Wrapping up

OK, time for you to go?

D'you know when you might next be able to do a session Lucy?

For me, not Tuesday. Thursday, Friday, Saturday this next week.

*lucy, 12:01*

I am will have several conference next week, so I am not sure if I had schedule now. Maybe Thursday afternoon/ I will email you later?

*mike: 12:02*

Thursday I'm in a conference, sorry.

OK. Have a good evening. Seaside? Beach, swim, walk? I went in the sea yesterday - very sticky hot!

My conference <https://2018.open.coop/programme/>

*lucy, 12:03*

same in Qingdao. I will be back Beijing later.

*mike: 12:04*

Thanks again for calling me up Lucy. Two more sessions to complete the data collection I suspect?

*lucy, 12:04*

then maybe Friday.. I am on train Saturday. If Friday doesn't work, maybe we have to finish it next week

*mike: 12:05*

Next week I guess. My conference is Friday too

*lucy, 12:05*

And I think we have talked a lot about the second wave

*mike: 12:05*

We have. And the present day. Onward! I'm glad we've taken another step today. Thanks. Bye for now.

Oh one more 70s saying . . .

*lucy, 12:06*

I keep them in notes



*mike: 12:06*

This will amuse you? "Dare to struggle, dare to win. Dare to snuggle, dare to grin" . . I heard the joke from Bob Young. 50% Mao-Tse-Tung thought. 50% hippy tree hugging. I put this in the introduction to my PhD thesis! Mao at the beginning, tree-hugging at the end, after thanks to my RSJ friends/comrades. Very un-academic and 70s!

*lucy, 12:07*

hahah. yes, very hippy

it will be good that we talk about the third wave after your p2p conference

Let's find a time after then

Bye

*mh: 12:08*

Bye

## Part 4 : 2018 08 08 - mh & lucy Skype chat

*Note: Time-stamp is London time. Beijing time is 7 hours ahead.*

Transcribed by Mike Hales : 08-09 aug 2018

Intro

- Third radical science movement? Conditions for a different radical practice today
- Politics of innovation today - STS and China
- The third movement - historical perspective? P2P in China?
- Next moves

mh

I feel we've covered a lot in Part 2 of the question list (The Second Movement). So would you like to open with Part 3 - The Third movement?

If we can wrap up the interviewing today that will be great? Then move quickly through the next phase - selecting the handful of "STS life" episodes that we'll use as the base of our 4S presentation. So that - **very soon** - I can start to build the presentation?

lucy, 16:05

I am back

mh: 16:05

Hi there

lucy, 16:06

Sorry to be delayed, a friend of mine drive through town.

Yes, maybe we could start from the third. But maybe we could talk something about the second during the conversation

mh: 16:06

How much time d'you want to spend Lucy? It's late in the day for you

lucy, 16:06

2 hours,? It 11 pm now, not too late

mh: 16:07

2 hours is good. Thanks. If we can be ready to move to the next phase at the end of this session, I'll be happy. Over to you . . .

# 1 Third radical science movement? Conditions for a different radical practice today

lucy, 16:07

ok . . . Then talk about the third movement? How and why do you feel the third radical science movement is coming . . . and what are the key characters?

mh: 16:10

When I first read Gary's article I was sceptical about "a third movement". I was thinking specifically of a *Marxist* movement, and feeling that radical science had disappeared off the agenda since the 80s. But what I see today is this . . . A movement that may not be about 'science' but is very much oriented to internet *technologies*, and is entirely about a politics of *producing knowledge* of different kinds in different ways. Not a *marxist* movement, but perhaps it can be conducted in a *historical* and a *materialist* way? My commitment was always to **historical materialist** theorising, inspired by Marx, rather than to 'Marxism' as a brand or a clique. Also, since my PhD, my project has always been about the production of **rigorous knowledges** that are capable of informing radical practice, 'theory of practice' rather than 'science'. So, when I encountered the P2P movement, it looked very attractive and significant.

lucy, 16:13

But did you change your Marxist view while you are seeing the third movement?

mh: 16:15

I use the same frame now that I've used for many years - since the 70s. It evolves of course. But I settled into a "cultural materialist" frame during the 70s, and retain this perspective.

I feel that the possibility of a **materialist** analysis just gets deeper all the time. The view of '*material culture*' and work-practice in science and knowledge-production generally, that has been developed through STS, is just part of this. The material view of *the mind and consciousness* that is available today - and the huge advance in *evolutionary* knowledge - brings materialist possibilities to so many areas of understanding. This has happened in the past generation, in my own lifetime. It's remarkable.

And **historical**? I'm simply *unable to think* except in historical terms! . . . about *practices in contexts*, that are historically being shifted. *Forces of production*, being constantly (day by day) re-formed under

shifting balances of (capitalist and non-capitalist, prefigurative) *relations of production*. Marxism! This is what I see when I look at the world. I see history when I walk down the street, and feel myself to be *in history*.

I'm very disconnected from **STS** today, haven't seen much of STS since the 90s. And yet . . . just yesterday I emailed Geof Bowker (professor in STS at university of California, Irvine, who I know from 70s radical science theorising and 90s CSCW research) about **infrastructure** (work he did with Leigh Star when I knew her in an 'invisible college' the 90s) . . . because the P2P movement is VERY much about "infrastructuring". So I just picked up a 90s STS thread, for today's organising purposes.

I dip in and out of STS - it is not "my field", I don't have a **career** in this field (or any other academic field), I have only a few publications in this field - but it forms one of the domains that I have *stepped in and out of* over the past 50 years, since my PhD research, as part of my decade-by-decade investigation of *ways of producing knowledges* (started with my PhD in the 70s) and ways of organising in '**the professional managerial class**' (started by leaving my PhD temporarily unfinished in 1974, and becoming a rank-&-file trade union organiser/activist in the chemical industry).

The movement for **P2P-commons** is a complex of things. Some folks are very focused on code, apps, protocols, post-internet distributed networking, the **computing and networking infrastructure** - in a 'tech' kind of way. Some are focused on **historical** practices of commoning and **anthropological** perspectives on how people organise and govern resources without markets and hierarchies and capitalist motives. Some focus on "**knowledge commons**" and licensing of resources in the commons, to defend them against **enclosure** within the global capitalist economy. And so on. Many threads of commons activism. So I'm regarding all of these as strands of P2P-commoning. I don't see the movement as in any way specifically British. The people I'm working with today are all over the English-speaking (European-speaking)world. [See more below, section xxx]

lucy, 16:21

yes, that is interesting . . . you were talking about it moving globally.

mh: 16:22

My interest is very much an **economic** one. Since the 70s I've been in "economics" as much as I've been in "STS". From a basis in marxist theorising in the 70s, i've become as much "an economist" as a person "in STS". And in neither of these areas am I "a professional" or a recognised academic scholar. My interest has been practice - in the uses of the knowledges that have been developing over this period - rather than careerist-academic. Same goes for **history** - I'm as much (and as

little) a historian as I am an STS practitioner. My PhD started as history, became philosophy, became 'theory-of-practice', became anthropology, remained theory-of-practice. My practice started industrial, became academic, became economic, became class-activist. Remained so.

Two years ago, when you and I met at the Radical Technology anniversary gathering in Bristol, I was engaged in baby-boomer activist 'legacy' - and was delighted to see that radical technology still existed, as a community (while radical science had dissipated?). At that time I was seeking collaborations with younger activist generations, and quickly that developed from 'radical science' activism into present-day 'economic' and cultural activism, and continuing activism in fields of computer-supported cooperative work and systems of innovation (my professional fields in the 90s). That took me to the idea of 'a college', and that took me to Loomio, as a platform where i thought a cross-generation, cross-location 'invisible college' could be developed. And then, seeing the nature of the Loomio community (skilfulness in facilitating community was as important to them - young entrepreneurs, coming out of Occupy in New Zealand - as the user-experience of the software platform), I began to be aware of this activist formation and globalised cultural movement that I now understand to be the P2P-commons movement. The P2P-commons movement is the natural place for the theory-of-practice story of mine to pick up at the present time. I do have a sense that it's where 'the third movement ' is being made.

lucy, 16:22

Can you tell me more about why do you feel p2p related with radical movement, and how it changed the ways of people production of knowledge

mh: 16:23

P2P has its own sense of how knowledges can be produced and mobilised - "open and collaborative" is one frequent characterisation.

Personally I have a very strong sense of two things today in P2P . .

One is "**radical professionalism**" like the 70s. I see this as "organic intellectual" practice - not academic, basically activist, a politicised social movement. A movement of educated and skilfully enquiring people, a movement of 'R&D', like the 70s . . "knowledge for the people'. P2P today gives me very much the same feeling as the 70s.

The other thing, related, is **radical production of radical knowledges** (plural).

P2P is generally explicitly anti-capitalist. In movements like "Transition towns" the framing might be environmental. But in the movement for "the solidarity economy" for example, the solidarity is overtly anti-capitalist (and anti other cognate modes of oppression

also). There are many threads, some are 'responsible business', 'non-extractive' business, 'social enterprise', cooperative enterprise - not primarily defined as anti-capitalist but pro- something which is socially beneficial. However, the majority of the P2P movement is consciously anti-capitalist (post-capitalist).

So this feels very 70s to me.

lucy, 16:27

So, anti capitalist is 'radical'? Should we **redefine** radical now?

mh: 16:29

As a libertarian socialist, "radical" has always been more than just anti-capitalist. It's also anti-patriarchy, anti-racist, anti-collectivist, anti-Statist. The list could go on!

lucy, 16:29

haha

mh: 16:29

So I feel that "radical" still means the same.

lucy, 16:30

So p2p hit some character of radical aspects

mh: 16:30

I need to slow down, and consider ways in which today's movement seems **different**.

lucy, 16:31

Yes different

mh: 16:32

70s radical was anti-war (for example) and anti the use of *professionals' expertise* in exploitative, militaristic, hierarchical, corporate, exclusive ways, divisive. Today's 'radical' must be *pro-environment*. There's a big shift there. 'Environment' is a very changed, central feature of today's 'radical' situation. It can't be ignored in any truly radical politics. That was not so in the 70s.

lucy, 16:32

It is driven by the new information technology, and systematically designed. What is the difference between these two? Don't you think there might be something more radical than pro-environment ?

mh: 16:34

70s radical was post-68, when there was a (very incomplete, idealistic?) "revolutionary" student movement in the West (and some revolutionary workers' formations also). I don't think today's movement is primarily

students. Or *primarily* related to academia at all. This is one difference. Academia (and STS for example) is just a part of the picture of where today's radical formations are institutionally located. Institutionally, it's more diverse today?

To attach pro-environment - in a time of manifest environmental crisis - to 'anti-capitalist' makes it run much deeper I think. So it's more *deeply* radical. And way more deep than **the 30s** movement. The crisis at that time was financial crisis and Fascism. With post-war revived employment, the new welfare state regime and Nazism defeated, that was 'job done' for the 40s radicals? The 70s radicals took up other definitions of 'radical' and 'Left'.

lucy, 16:35

Changing in the main participant

mh: 16:36

The **Occupy movement** is a strong part of the culture that P2P rises from today. Anti-global-capital, young people but not specifically students, not necessarily in professional employment. Facilitated by social media and P2P networking experience in everyday life - an everyday experience of a younger generation with smartphones ('the rave generation', part of ordinary club culture and music festivals, not 'political', just a sense that a different kind of life is possible - even if only for a weekend - and can be organised by people with smartphones, not by experts, administrators or corporations). This is a continuing ripple of 70s counter-culture, enabled by new technological means (and new recreational drugs, and expectations of regular pleasure among peers, in mass events, that only started to become established in the 70s - eg with Woodstock). Self-organising. A different version of the *self-management* that I took up in the 70s, not tied to a corporate setting. More counter-cultural than my own 70s politics, which was about bringing down the institutions, rather than community and lifestyle.

lucy, 16:37

sure

mh: 16:39

Also the **career status of graduates** today has changed. 'Precarious' work, the gig economy. High levels of debt (neoliberal strategy of financial capital). Lifelong careers have vanished, the expectation of a 'home' in the corporation has disappeared. But despite precarious work and graduate under-employment, there's a sense that anybody can make (or sell) anything (because digital *tools* and *global markets* are available) and also that *creative and entrepreneurial* lives are necessary because wage-work is unsatisfying or unavailable.

lucy, 16:40

yes, and the new generation is different on the world view

mh: 16:40

So the younger people who would have been "radical professionals" in the 70s are not professionalised in that same way today. They've been made into institutional 'outsiders' rather than 'insiders' through the neo-liberal attack on professionalised work over the past 30 years.

lucy, 16:41

but today, people are living on radical? shall we say that?

mh: 16:41

Self-employment is a more common expectation, creating a business, selling something (a coop?). More entrepreneurial, less oriented to the State as a source of help and infrastructure. Neo-liberalism again. My son is "the Thatcher generation", when the status of professionals and privileges for non-elite professionals were deeply attacked, to increase the differential between the top and bottom of the wealth scale and legitimise the accumulation of absurd amounts of private wealth.

I would say that the younger person who would have been radical in the 70s is now living a different kind of life because capitalism has changed their living and working conditions, and their career prospects. So HOW they are radical - and how they NEED to be radical - is changed now, from the 70s?

lucy, 16:44

that is a good point

mh: 18:45

In the 70s - through to the 90s maybe - there was a sense of the world being organised into **corporate** forms (the global corporation, the massive welfare state bureaucracy). Today there is a real experience in everyday life of much more truly distributed (fragmented?) forms of social and economic organisation (including the internet, which didn't really enter into common work or personal experience until the mid 90s) . . . alongside continuing highly centralised or globally coordinated corporate forms?

It seems to me that the focus on 'science' of the 70s is naturally a focus today on **knowledges**. The internet, digital media and social media have produced a deep shift in how knowledges are perceived - and who can produce them. In a sense, everyone with a smartphone may now experience themselves as participating in a 'knowledge economy'. In the 70s, this was an experience only for an educated minority (and a different actual experience, tied to places of work and to systems of objects like libraries). Expanding then (in class terms) but still a minority.



lucy, 16:46

en . . . the long tail effect could only work in the internet environment

mh: 16:47

"long tail effect"? [Missed question]

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## 2 Politics of innovation today - STS and China

lucy, 16:47

so these days, people will talk more about the politics of algorithm, instead of one corporation

mh: 16:48

I wish more people **DID** ask about the politics of algorithms! That reality is still quite invisible to most people – even educated, media-using folks. Most people don't understand what FaceBook does with their gossip and casual information, the hugely powerful analytical tools that live in the back office of the social media corporations. Or the military. The scandal about Facebook and Cambridge Analytica is because data got 'leaked' and used for political purposes in elections, not because of FaceBook's basic business model and everyday algorithm-tooled practice.

lucy, 16:49

because it need more knowledge and awareness to ask this question , but there are people do it

mh: 16:49

Yes, politics of algorithms is a BIG dimension today – and will get deeper, as the technological capability to "design" the world (and perform 'disruptive innovation') progresses through into 'natural' materials, biosystems, nanosystems.

Do we hear slogans yet for "socially useful algorithms"? "socially useful data analytics"? These slogans haven't been created yet!

lucy, 16:50

socially responsible algorithms [typing]

mh: 16:51

"Socially useful genetic manipulation" is a horribly difficult concept!

lucy, 16:52

manipulation might be a frightening word

mh: 16:52

Currently, people are much more at home with the idea of progressive computing tech. I guess, because there is so much everyday experience now of computing devices and code-driven artefacts and systems.

Progressive bio is a long way from popular (or radical) consciousness?

*Do you think?* Lucy, this is your field . . .

lucy, 16:52

yes, sure. Progressive is highly valued, and people are still using deficit model to pushing the whole knowledge production and using chain. which is lack of the systematically thinking

[Sends search results . . .]

### How to Create Socially Responsible Algorithms, According ...

<https://www.inverse.com/article/41565-ai-research-institute...>

AI Now's report, "Algorithmic Impact Assessments: Toward Accountable Automation in Public Agencies," emphasizes transparency when it comes to **algorithms**.

### Working Towards Socially Responsible Algorithms - STEM ...

<https://www.stemadvocacy.org/2018/02/25/working-towards-socially...> ▼

by Aiza Kabeer, BS (Research Fellow) and Jessica W. Tsai, MD/PhD (Co Director) Abstract From criminal justice to financial markets, **algorithms** are now embedded in the fabric of our society.

### How to win in socially responsible investing: Don't ...

<https://www.cnbc.com/2017/06/16/how-to-win-in-socially-responsible...> ▼

Socially responsible investing funds perform as well as traditional stock funds. As algorithms to identify ESG (environmental, social and governance) factors improve, there's a ...

### Socially-responsible load scheduling algorithms for ...

[ieeexplore.ieee.org/document/6486018](http://ieeexplore.ieee.org/document/6486018) ▼

**Socially-responsible** load scheduling **algorithms** for sustainable data centers over smart grid

mh: 16:56

Those Google hits are interesting - I thought I was inventing the term *socially responsible algorithms*!

I've been emphasising the non-academic nature of P2P as a movement, compared with 70s radicalism. Which I think is true. It is among intellectuals and educated people, but it's also in communities ('green awareness', struggles for employment, for alternative food options, for local democracy, for basic livelihood), it's in the gig economy and trying to make your own future on YouTube. It's in self-created small network-y businesses. But also there is radicalism in **the professional field of STS** . . . yes? And radicalism (in our sense) in **biotech** innovation thinking? In the West. And **in China** . . . ?

lucy, 16:58

Last year in the 4s, people became very radical I THINK. Although the topic is very old style, such as the refugee, the HIV activist

In biotech, maybe the biohacker, and citizen science are radical .

mh" 17:00

I don't know, but have a sense that the radicalism in 4S is very much about what used to be called "equal opportunities" - representation of "minorities" within the 4S community. But I think you're saying that the research **topics** of STS are also radicalising? Is there a generation of radicals **within** STS who are demanding a more radical selection of research topics?

lucy, 17:02

I didn't see the radical generation in STS. Maybe because I am not very much follow this topic, and maybe the radical people wont be attracted by STS nowadays

mh: 17:06

I was delighted to see - when I contacted Geof Bowker who is an 'old' STS person from the 90s - that the same kinds of significant, politically-oriented work seem to be ongoing in his area at least - *Infrastructure. [Added note: At UCI, Geof is responsible for a lab that explores "new forms of information systems and technology which express/perform strong social and ethical values". This is very 70s, merged with the new post-Fordist forms of the 90s]* Science & technology as infrastructural . . knowledges as infrastructural. And the research agenda of Computer Supported Cooperative Work - which in the 90s (my STS field in the 90s) was about alternative corporate IT systems (in-house infrastructure) - now embraces infrastructure in the very large, public, global-internet sense. So - as of yesterday (!) - I'm aware of continuing work in STS today that I would have seen as radical in the 90s.

In STS today, is "responsible research and innovation" radical? Radical enough? Or just a western policy "fashion", liberal guilt.

lucy, 17:10

of course not. researchers are criticize RRI. I think it is more about a policy fashion

mh: 17:11

OK, so if RRI is fake radicalism (?) . . . how about "Transformative Social Innovation"? Has that European research formation made any impression on you?

Transformative social innoovation community . . .

<http://www.transitsocialinnovation.eu/home>

with a manifesto . . .

<https://tsimanifesto.org/about/>

lucy, 17:01

In china, p2p didn't spread into science community. It is more about financial , charity,

mh: 17:01

Explain? Financial mode of P2P in China? Crowdfunding?

lucy, 17:02

Yes, kind of. People invest money to loan it to others, but these month, the government closed several companies

mh: 17:06

What kind of companies has the government closed down?

lucy, 17:10

there are more than 100 companies, some of them are said to be illegal capital raising, some of them capital chain rupture

it makes thousands of common people lost their money at one night

mh: 17:12

Was it some kind of financial scam? A criminal scheme?

lucy, 17:14

Yes, some of the companies are financial scam, but not all .

mh: 17:14

I find it hard to imagine how any kind of genuine P2P practice would end in common people losing their money.

lucy, 17:17

people losing money in two ways, some is because the financial scam, some is because the government simply shut down a company and make everything illegal

mh: 17:18

Ah! Perhaps genuine P2P practice is "a threat" to the State. Close them down, make them illegal. Don't care if people lose their money, serves them right for engaging with illegal activities.

lucy, 17:12

Do you think radical is an local issue as well ?

Transformative social innovation is the same thing. but how should china understand its positive ideas , and try to practice in China should be valued. all in all, I agree with the ideology of RRI.

mh: 17:14

Seems to me that the researchers who produced the TRANSIT social innovation manifesto are pretty radical in their intentions. Also very

oriented to the P2P movement (or the solidarity economy movement, which blends with P2P) which was the focus of many of their case studies.

lucy, 17:15

I think the discussion about radical makes me more sober about what is the most important contradiction in this society now

mh: 17:16

*. . . the most important contradiction in this society now . . . ?*

lucy, 17:18

I mean what is **really radical today**, what is deserve to fight against, which might be the main trend in the future?

mh: 17:19

Such an important question to ask. So difficult to filter things down to this focus, when so many things are going on. But important to be trying. Yes?

lucy, 17:20

I rethinking myself, may be much easier for me to **follow the academic trend**, like introduce RRI into China, but **lose my own rethinking** about the real problem.

mh: 17:21

"Following the West" has been a very tempting way to develop a career in China these past 20 years?

lucy, 17:21

absolutely

mh: inserted when transcribing

*In our conversation, at times I can feel your reluctance to focus on **China** and **today** (and tomorrow). To want to repeatedly place the focus on Europe and on history. I guess I've always had a sense of radical context - a formation, a movement, a culture, a peer group - so that I never perhaps had to come up with **my own** analysis. I could go along with my peers; my radical life is very much a history of the peer communities (invisible colleges) that I have been able to find and to become a participant in. The choice then was - which peers? But to find **your own** analysis is much harder? Lonely?*

17:21

So . . . what deserves fighting against most, in China's current development path? I do have a hunch (ignorant?) that "the country and the city" is kind-of a time bomb in Chinese culture and economy? With bio-policy implications? And temptations to just join the global markets in bio?

lucy, 17:26

biopolicy is oriented by some **top scientists**, and **leading industry**.

17:23

omg, I loose my ability to talking about this issue

mh: 17:24

Too big? At midnight, your local time?! Shall we back off?

lucy, 17:24

What do you mean by country and city?

mh: 17:25

Big theme, diverse. Has been going on throughout recorded history (as a repeated story of a 'lost age' of peacefulness and balance - the country was peaceful and ordered, the city is turmoil and old values are lost). But becomes a dramatically fast-changing story in modernising societies, as capital revolutionises the organisation of life and work. And great unevenness develops across 'forward' and 'backward. countries, regions and sections of the population.

- A In capitalist accumulation, primary accumulation comes through enclosure of the *land*.
- B In the development of the European working class, there's a tension between traditional country living and *urban proletarian living*, a traumatic transformation across a couple of generations, a migration, loss of identity, new institutions being created. The whole world speeding up, because capital itself is only just beginning to speed up and crowd in. Speed and saturation are qualities of *capital*.
- C In China today the demographic relationship between country and city is complex and involves millions of people - *migrating*, sending money home, being relocated across regions, new urban infrastructure with no cultural infrastructure. But against a suddenly introduced background of *Westernised trade and competition* that is suddenly - in a single generation - up to the fastest speed in the world.
- D This is all under what's referred to as **uneven development** in Marxian **historical and geographical economics**. Crisis *emerges* out of uneven development (not enough places for capital to go, in its ceaseless expansion), capital finds its ways of '*solving*' each crisis out of uneven development (new commons to be enclosed, new labour to exploit, new needs of new populations to commoditise or manufacture).

lucy, 17:27

In China the tension is always between the plutocracy and the common people

These are not the key thing. Let me think about it.

mh: 17:29

go ahead

lucy, 17:30

The government's chaotic command and management of the market leads to **the sub-health of the economic system and the social system**

mh: 17:30

Still a command economy as in Maoism. But WAY too complex - in scale, in dynamics, in external relations - to command **successfully** now?

lucy, 17:31

not really

mh: 17:31

Am I leading you too much with my view? Is 'country and city' not where the biggest contradiction actually is?

17:31

I just had a 'historical' thought

In 40s, Left scientists wanted to prevent "running the war on gusts of emotion" because they wanted Fascism to be defeated. So they participated in the war, served the military with their scientists' literacy, and made military operations "more rational". Is this the position of technical intellectuals (intellectual cadres?) in China today - except that it's not a military war that's being conducted irrationally? It's a commercial war?

lucy: 17:37

Government needs the economy to blossom within a safe boundary of not risking their own government. This generates a culture that **the politically reliable is something most important**. Which gives the vested interests more opportunities . It excludes **the normal, healthy economy**. People easily choose the way of cheating with each other and produce low quality, additional value product.

mh: 17:37

*. . . cheating with each other and produce low quality,  
additional value product*

lucy, 17:37

Political stability trumps everything

mh: 17:37

This is a terrible consequence

lucy, 17:38

yes.

mh: 17:38

But cheating, low quality, churning out 'more' of anything even if it's not a meaningful and well-functioning product, is a very 'human' way to get by, when the power of the State is so great?

lucy, 17:38

The whole system is advocating this kind of activity

mh: 17:39

OMG. That's too big for me to get my feelings around. That challenge is a **long** way from "science policy" or STS as a research field? That's a crisis for **everybody**, every day? Life is made grotesque. Where does normal, healthy economy go? Normal, healthy life? The feeling of making things that have a good quality?

lucy, 17:40

People are selling fake health care products , one of my neighbours bought 12,000 pounds product every year. The SFDA, knows what happen, but to keep a high economic growth, and trade off of the power, it just happen.

mh: added

This is a bubble - an economy (and a culture) not based on real value. Actual use-values. It must collapse?

17:41

And yet . . . supporting P2P production is a way of supporting giving people a sense of **actual** quality, **actual** production that meets **actual** needs. At the centre of P2P-commons is the concept of **use value**. What actually works. What actually benefits people. It's very political !

lucy, 17:42

p2p is very political. I like this point

I am terribly upset about what happened in China , these days, I don't know if it could get better later...



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### 3 The third movement - historical perspective? P2P in China?

mh: 17:41

A few days back I wrote a note on 'radical history' as part of the radical science environment in 70s Britain. Did you have chance to read it?

lucy, 17:42

I am sorry I didn't. I will read it later this week

mh: 17:44

I wanted to say how important to radical science it was, to have a background of a big shift in the ideas of **history** as something that WE were involved in, as common people.

That big movement in consciousness was behind all the 'radicalism' of the 70s in Britain. And in the US too I think.

lucy, 17:44

I get your point

And why do you think **the third wave** is important

it is a shift of ways of thinking and view of knowledge

mh: 17:46

It seems to me that Third movement is just a further ripple from what was moving in the 70s. Capitalism has changed the conditions (and the means) but the enquiry and the spirit continues to be the same?

lucy, 17:46

what is in the circle of the ripple

do you have case study to support your opinion? [lost this question]

mh: 17:47

But if Chinese culture doesn't have that same sense of MAKING HISTORY NOW - us, in our everyday work and life - there wouldn't be a radical science movement of the same kind. The roots of this are old in the West. They started **in the 1890s** in Britain.

lucy, 17:48

did you interview the new generation , what do they consider themselves?

mh: 17:48

You could say that I've been doing "participant observation" for the last year! Becoming involved in a several of online networks. Not 'to

observe', to work, to build, to contribute to the commons of know-how. I do think that the political significance of P2P deserves real contribution.

Partly, contribution from a sense of history . . professional-managerial class within Fordist capitalism, radical history, roots of 'radical professionalism'. Something the young guys don't have. This is "a long revolution" (British New Left concept), we need to know the story because **it's ongoing**, unfinished.

*" . . . I am terribly upset about what happened in China , these days, I don't know if I could get better later"*

I understand. The forces in China are huge and powerful. But . . . there are movements somewhere in China - in cities? in Beijing? maybe Beijing is different, being the centre of government? - which are about actual life, actual skills, actual benefits. The real economy. Use value. The deployment of C21 tech to enable P2P-commons production - use-value production - in all sectors. There just HAVE to be such movements. But they may be rather invisible?

Hard, too, to publish research papers about?

That is a stretch - between what R&D needs doing, and what there is 'a market' for. A radical in STS is making this stretch all the time? In the 90s this was the stretch I was under when I worked in the business school. It didn't always work out! Less than half the time - much less - I worked on things that I thought mattered. The majority of the time, I worked on what my departments needed me to work on, because we could get funding for it. I was very fortunate I think, to have three years or so when I could participate in the field that seemed to me to be of real significance at that time (CSCW, participatory development of It systems).

lucy, 17:57

Yes. In some areas. such as the computer science engineering, they could find a program writing job in p2p networking.

I was searching top p2p companies in China, most of them are p2p finance very very lame

mh: 18:00 [extended during transcription]

P2P won't be in identifiable, visible **companies** in China, I think. It will be fairly invisible. And probably going under some other labels. In Britain, P2P is expressed in social movements, local economic formations, some strategies of local government in one or two medium-size towns, , 'voluntary' activity, 'social enterprise' - not in major companies and not in central government programmes. Not measured in any economic statistics. It's too radical (unfamiliar, differently shaped)

for that! But P2P-commoning is essentially a globalised collaborative **movement** for *institutional change* and new/differently organised *forces of production*.

Thus P2P is not a *sector*, it is a **mode**. A multi-faceted mode which takes different forms in *different sectors and regions* of an economy, and within *different cultural settings* - eg different movements, oriented to computing, or environment, or local economic development; or specific political traditions (anarchist federation, associationist-socialist, cooperative, municipal-socialist, etc). P2P is a campaigning label, a political banner, a strategic analytical concept, a broad R&D agenda, a political intention

The people who discuss and strategise explicitly in terms of P2P are members of an *international* circuit of activist researchers, organisers and entrepreneurs - I guess, several thousand people - community organisers, strategists, developers of 'free software' apps and protocols. This work is often done in their own free time, not as paid work; P2P R&D occurs to a large extent in the sphere of voluntary and grant-supported or contract-funded production. One label that might be visible is perhaps 'platform cooperatives' or some other reference to **platforms** as an innovative form of **user-controlled infrastructure** for economic and cultural development. There are related initiatives in digital currencies and credit ledgers, social media protocols and value-chain protocols, to enable P2P trade/exchange/sharing, communication and production/supply through distributed channels, without centralised institutions such as banks, corporations or service agencies. Also related, there is development of architectures of 'open' apps and distributed computing facilities (and their associated operating protocols for inter-operability), to enable individual people and organisations to share data and computing power, and operate on data, in locally-determined ways, free from the oversight of utility companies or bureaucracies and the configuration and service choices of companies that produce software systems or run platforms in the cloud.

This is harder to characterise than I thought. I'm sorry I can't be clearer in a few words.

P2P is a highly *diverse* and *institutionally-distributed* field of *activist practice*, oriented to radical developments in the **forces of production**, under radically altered **relations of production**. This means that P2P is fundamentally engaged with **infrastructures** of economic and cultural life, and the *skills, tools and institutions* through which such infrastructures may be evolved in meeting the *actual needs* of their users, under the *control* of those users. The term P2P primarily references an orientation to changes in **modes of governance, power and value**, in and around practices of economic production; and secondarily, cultural production (especially as this bears on the capacity to

establish and operate in a P2P-commons mode). Although P2P practitioner-developers prominently operate in the space of the internet, and also in many sectors of service and material production, P2P does not name a product or service, a kind of system or an economic sector. Its focus on the collective control of systems of infrastructure makes P2P-commons a profoundly radical evolutionary movement and principle.

mh: 17:58

OK, so, a 'small problem' here (!!!) . . . what are the P2P forms that need to be discovered and cultivated **within the biotech domain**? It's the next tech wave. What biotech R&D would feed the P2P political, use-value agenda? Internally, within China, enabling common people to have better life, better work, P2P self-management, localised circuits of trade that keep value within actual communities instead of 'leaking' out into the global economy?

lucy, 17:57

what are you observing in uk? [missed question]

mike (response during transcription)

Rather than 'observing', I'm *collaborating* in the following . . .

In Britain, I'm co-convening a group around the work of the economist, Robin Murray, under the title: *Making the civil economy*. This is initially a reading group with international membership, an online closed Loomio forum and face-to-face meetings in London. The group will collectively author a book (or some kind of document) that explores and aims to extend Robin's analytical and social-venturing work. Robin was Chief Economist of the Greater London Council in the 80s (an early experiment in 'the partner state') and one of the founders of FairTrade practice. I was a member of Robin's group at the GLC and my 'cultural materialist' perspective took shape under a strong influence from his work in labour process marxism in the 70s.

In internet space I'm active in *social.coop*, a formation that operates a platform instance of the free-software micro-blogging app, Mastodon, with the intention of developing cooperative practice in the operation of social media (and perhaps other forms of open app ecosystem). Free-code hacking, open protocols and OpenApp ecosystems, solidarity economy and cooperative organisation are all commitments that converge in *social.coop*.

In internet space I'm also active or lurking in three related Loomio groups: Commons Transition, Loomio Development, OpenApp Ecosystem, and through these am in contact with members of the *P2P Foundation* and developers of *OpenValue* operations protocols and systems.

In my new website [www.foprop.org](http://www.foprop.org) I'm attempting to weave together current perspectives in all these areas, together with a historical

perspective of 'legacy' work in *baby-boomer* libertarian-socialist activist traditions (including this present work for the 4S session) and work on *moral economy* or 'emotional commons'., which I regard as an essential dimension of my generation's libertarian-socialist activism, and thus, of the commoning project to radically transform culture and economy. The pivot of all these components is the thread on Commoning, which is work-in-progress on a *pattern language* for commoning.

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## 4 Wrapping up, next moves

Let's step back, look at what we need to do next - in the next two weeks!

lucy, 18:01

ok

mh: 18:02

I feel we should draw a line for now under what we have from the transcripts, and go to work selecting the small handful of things that we will attempt to fit together for Sydney, as two voices telling brief stories of "lives in STS".

15 min presentation total. 7 min each voice. Actually - **5 min each voice** plus 5 min intro on 'three movements' framework?

lucy, 18:03

all right

mh: 18:04

In the next 24-48 hours, can we each select two - max three - incidents or episodes of themes from the interview of THE OTHER PERSON? Words that we feel are really intriguing, and issues or challenges that we ourselves can relate to?

Then out of those 4/5/6 themes or instances, we write two brief stories of "a life in STS". Or **a life that MIGHT be lived in STS?** You write your story in your words, and I write mine in my words.

That's the presentation! Two parallel (probably alternating, not sequential) audio threads. With a background of words on the screen. I hope to be able to create some animation in the Powerpoint and to use graphic icons, so that what's on the screen looks a bit more interesting than plain text.

I need to get started very soon on the technics of an actual presentation! With an audio soundtrack from the two of us, telling two related stories.

lucy, 18:06

I will try . . . I have to read your outline first haha

mh: 18:07

You have a much more complicated everyday life than I do. It's easy for me to work on this, much harder for you. I will do what I can tomorrow, selecting two/three episodes from your transcript that I feel really SPEAK and resonate. Oh - and I'll transcribe today's session! Hmmn

lucy, 18:09

Please I hope you could do more summary work because I am not so good at it . . . and you have a whole agenda of the story talking

mh: 18:10

I'll make my first priority to transcribe today's chat. So you have all the material to scan and pick from. Then I'll find the themes that seem most 'inter-weavable' in transcripts of your story.

lucy, 18:11

ok . . . I will travel back to Beijing this weekend, to attend The World Congress of Philosophy next week. I have a short presentation on it.

mh: 18:13

Then I'll start hacking a Powerpoint framework that can contain two stories, just to begin sorting out any format or length issues. I do want to make the Powerpoint interesting to look at if I can. I hope to use a lot of graphic icons and perhaps some animation, rather than just text bullet points. So it's a bit challenging and time is running out.

A busy week for you, travel and all

lucy, 18:14

Yes, I will find more time to tell our story. China's STS story

mh: 18:15

If you can get some time before you travel to Beijing, to review my answers to your questions and get a hunch about the two or three most intriguing things - for you, from a China perspective - that will be great. The sooner I know what your choice will be, the sooner I can start to work on the Powerpoint graphics content - ideas, displayed as graphic icons.

lucy, 18:16

ok will do

mh: 18:16

I'll set to work this evening on today's transcript. I have another 6 hours before midnight! But first, a walk in the sunshine. And a beer ;-)  
Then back to the keyboard!

lucy, 18:17

haha Good plan

Today 's supper is really unexpected

mh: 18:17

I'm sorry to be applying the pace Lucy. But the conference deadline is getting a bit real now :-(

lucy, 18:17

I am sorry for your waiting at the start of this session. yes, sure. I am the one who is very slow

mh: 18:18

No apologies needed. Your life has been demanding , the past week. I'm glad your son is well again.

OK, time to go out. Thank you for working on this, among all the other pressures. This is quite hard work we're doing!

lucy, 18:19

yes, he is getting better now, although the temper is not so good but he could go to kindergarden! yeah!

I plan to stay in the UK for a year next year or 2020, I hope it would be a good chance to be more concentrated on this kind of discussion . . . but before then, I think we should talk more. There is lot of things I could learn from you . . . have a nice evening

mh: 18:21

It would be great to be able to address these things more slowly! And without using a screen.

lucy, 18:21

:D

mh: 18:21

warm regards bye for now