CRF Project on
Making Modernity in East Asia: Technologies of Everyday Life, 19th – 21st Centuries

Transcript of the Interview with Professor Wiebe E Bijker
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Participation in the MMEA Project in the Hong Kong Institute for the Humanities and Social Sciences

When Angela invited me to be an advisor, I think I gave her a kind of double reaction. First, I was very excited to do so and would gladly accept. But, secondly, I was not so sure how beneficial my participation would be. I have not done any original research in China. Most of my research in Asia concerns India. I was excited to be invited because I was sure that I would learn a lot from collaborating with you all, as turned out to be true.

When I look back on what I have been doing for MMEA over the past three years, this was not so much offering new insights that you would not have had without me. If I have made any contribution, this is more through what I would like to call "STS skills". I was trained as a physicist, I did my PhD in sociology and history, I was dean of a humanities faculty, and my chair is a social science professorship. Living through that strange biography has equipped me with skills that I consider "STS skills": the ability to relate to other disciplines than one is trained, building bridges between people around the table, understanding research with different methodologies, and reading different styles of literature. If I look back, my asking 'silly' questions to better understand details of MMEA's on-going research has been more of a contribution to MMEA than any sort of clever insights, I think.

Interdisciplinarity of STS

First, it is important to realize that the situation in different communities, and now I am mostly thinking about national scholarly communities, can be quite different. I know that in France and the United States, even if you have graduated as an STS PhD, the next step is to apply for postdocs that are often labelled in a disciplinary way. So, you will apply to a postdoc position in sociology or history, and they will hire you because they read in your CV that you are bringing this extra, STS-type of wider scope. In the Netherlands, in contrast, you may find job advertisements that explicitly ask for an STS profile. Such can be the national differences.

My second point is that everyone will oscillate between a disciplinary identity and an interdisciplinary identity. Everyone may sometimes publish in a journal like Technology & Culture and at other moments publish in a non-STS history journal. I think it is important to

consciously and strategically choose what you foreground if you write for a particular readership or if you speak to a particular audience.

The third issue is whether one can call STS a discipline. I like to call STS an emerging discipline. Not yet quite a discipline, though it already has most characteristics: journals, book series, professorial chairs, bachelor programs, master programs, PhD programs — everything that makes up a discipline. But I still think that 'an emerging discipline' is better capturing its interdisciplinarity nature. Interdisciplinarity is not just throwing together many disciplines; rather, it is about moving into uncharted terrain where none of the single disciplines can help you. To do research in such uncharted terrain, a combination of interdisciplinary methodologies, perspectives, and insights is necessary. In this emerging STS discipline, over the past 30 years, scholarly values, exemplary problems, typical methodological approaches have been evolving. And they are still evolving, hence my calling it an emerging discipline.

I think such collaboration is extremely important and valuable. STS is probably a bit more institutionalized and more formally recognized in the Netherlands than in many other countries. But I think that (lack of) institutionalization is not crucial when conceiving research collaboration in a large consortium: what matters then, are mostly the individual researchers who participate. Let me mention one project that I was involved in as an advisor. This was a project between the Chinese Academy of Sciences, the Dutch Rathenau Institute for technology assessment (TA), an Indian Institute for science studies, and a German institute for TA. That project was explicitly aimed at developing a kind of global ethics for science and technology. It was meant to develop policies for managing democratically science and technology in Europe, India, China, by drawing on social-sciences and humanities research into the relations between science, technology and society. This consortium was an example of a rather institutionalized collaboration. Much of my own work in India, and my collaboration with MMEA, is more an individual level of sharing research interests, working together and everyone benefitting from that collaboration. I think both modes are possible, a rather formal institutional one and a more informal individual one.

STS in Asia and Europe

If I say that the Chinese development in STS is relatively slow, I would implicitly suggest that there is a clear path along which all countries should develop their STS. The Netherlands would then be described as ahead of other countries. That is not the right image — there is not one single development path for STS. STS in India and China is, for example, perhaps more policy-oriented than in The Netherlands. So, it is not lagging behind but it is different. There are other types of STS in Europe that are also more policy-oriented than my own work. So, there are very different ways of developing STS and I think it is important to cherish that variety and to benefit from it.

Much of my research in India could be seen as contributing to some form of technology assessment. The long-term goal is to develop instruments for making a fit between a nation's development agenda and a nation's research and innovation agenda. What a country develops as its research and innovation should be informed by what it formulates as societal goals.

What my work in India has taught me is really the counterpart of what I learned in the Netherlands. In the Netherlands, for almost thirty years now, there has been a steady institutional development of technology assessment. The Netherlands has been one of the first countries that established a unit for technology assessment at the national parliament (the Rathenau Institute). Additionally, STS in universities has developed strongly too. In India, it is the other way around. I found a very strong civil society movement that I would describe as STS, even if they would not use that label themselves — educated as scientists and engineers, sociologist and historians, doing some kind of activist science and developing a people's science and technology. However, institutionalization is relatively weak. There are some very good universities in India that also have STS departments, but they are few. And there is no TA unit for parliament or government. So, for me the value of Indian STS is this activist research that collaborates with farmers, weavers, craftspeople, and from that perspective engages with politics and formulates policies. This activist-style of STS is relevant for the Netherlands, just as the institutional experiences in the Netherlands could offer lessons for India and China.

STS and Policy Making

This is one of the most difficult questions. I do not have a real answer, but I do see some parallels with experiences in other countries. Even in rather totalitarian regimes, or nationalistic-oriented political cultures, there will always be pockets of freedom and creativity where ideas can develop more critically. Of course, this will be risky for the researcher-activist involved and I am not underestimating that risk. One of my colleagues did her PhD on handloom weaving and is closely working with Chinese scholars, particularly historians of technology, but also activists in the weaving communities. They do extremely interesting work that is relevant for those weaving and craft communities (in India, China, Thailand), as well as an asset for the international scholarly literature. Though I am not very optimistic of the democratic character of the current Indian Modi government, there are important parts of Indian society with a lot of critical and creative thinking about science, craft, technology and democracy. At some point, these creative thinkers, activists and researchers may 'bump into the wall' of the government and get a bloody nose, and they have to make a detour. I don't mean this is a joke — people can really be in danger, they can be thrown in jail. But until that happens, much serious STS progress can be made. It would mean to find a balance between working under the radar and developing ideas through collaborations.

The second response to this question, and one that would apply to the Netherlands too, is that one has to consider carefully to what extent you want to collaborate with a government that

you may be fundamentally disagreeing with on some issues. But let us bracket this question for a moment and focus on how one could have access to policy making.

The first step is to make a government see that they do have a problem. If they don't have a problem they will not listen to you, even if you claim that you have something valuable. You can help them to see their problems, and even to see these in a particular way. And once they see that problem, and once they see it in a particular light, they will realize that there might be something to gain from listening to these weird STS guys because they might have something to say on that problem. This often does not need to be difficult — most governments, for example, have a pandemic problem at this moment and it is not difficult to make them see that a narrow virological analysis is not giving all the answers they need.

If you present the pandemic problem in a certain light, you can warm policy makers to the idea that other scientific perspectives — historical, sociological, psychological, entrepreneurial, engineering — will be valuable. Virology is very important, but there are more aspects to the problem of the pandemic than that. Now, when a politician sees the broadness of the problem, and starts looking for integrated approaches, it would not be surprising if she ends up at STS— both for the 'STS skills' I mentioned earlier and for STS insights and knowledge.

With two colleagues, I wrote the book *Paradox of Scientific Authority*, to analyze the inner workings of an important scientific advisory institution in the Netherlands. We use Erving Goffman's idea of distinguishing between a frontstage and a backstage to understand interactions and social behavior. STS skills also figure in that analysis: especially to understand the backstage processes of the social construction of advisory reports; frontstage, a more positivistic image of objective science is dominant. So, my final suggestion about how to get access to policy making as an STS group is to strategically play out this frontstage/backstage dichotomy. Your own expertise in knowledge construction functions backstage—talking to different scientists, talking to policy makers, talking to stakeholders. Frontstage, you can then picture a more traditional, standard kind of scientific knowledge as outcome of the backstage construction processes. Using the dichotomy between backstage and frontstage in this way, will give you more freedom: you can use your STS skills and insights backstage, while presenting the outcome as solid, objective scientific knowledge.

Back to the more ethical aspect of the question, how to strike a balance between collaborating with a regime that you disagree with and collaborating so as to steer the regime to a more democratic and more positive direction. Using strategies as I just outlined, you can work under the radar and at the same time ally yourself with policy makers. Of course, everyone should make her/his own ethical assessment on this balancing act.

STS and the COVID Pandemic

I do not know of any formal participation by Dutch STS researchers in the Covid-19 policy making. But I can send you a piece that I wrote for a special issue of the Indian journal *Seminar*, dedicated to the pandemic, in which I analyze the Dutch pandemic policy from an STS perspective.[1] My sense is that within the first year of the corona pandemic, the panic was so acute that all policy makers and politicians rushed towards the virologists. These virologists rose to the occasion and did extremely valuable work. Additionally, unprecedented collaboration between universities and private pharmaceutical companies produced vaccines, about ten times faster than happens under normal circumstances. However, I do think that during the second year of the pandemic, more scientific disciplines than virology should have been called upon, including social science, humanities and indeed STS.

I agree, once we get this crisis under control, which may globally take another two years, STS researchers should step up to approach governments and say: "what now has happened, could happen every other 4-6 years. Virologists have been warning, but you (government, citizens) never listened. Now you know what can happen, and we should re-think the system of public health and vaccine development, and we offer our STS expertise to contribute to that." So, another example of my point that a government first needs to have a problem, and only then we can offer ourselves.

Criticisms of SCOT (Social Construction of Technology) as an Approach

Let me split my answer to this question into two parts. The first is to address the supposed criticism from postcolonial studies and gender studies. The second is about the applicability in, for example, Asia.[2]

Let me start with the latter. I don't see any problems theoretically, and I think that over the past fifteen years, it has proven to be empirically fruitful. The handloom-weaving study that I mentioned before is explicitly done from a SCOT perspective. And there are many other examples. Theoretically, I am not surprised either about this success. Yes, it is true that Trevor Pinch and I developed SCOT by drawing on case studies that were all about Western technologies. As a researcher or a reader, you should be attentive to whether this has created a possible bias that might get in the way of applying SCOT in other cultures. But that is primarily an empirical question. My intuition is that there is nothing in SCOT's original formulation that would prevent its application in China, or in India, or in Egypt of 3000 years ago. And a variety of studies testify of this: I see successful applications of SCOT in very different cultures and

[1] Bijker, Wiebe E. 2020. "Call for a new social contract between science and society." Seminar (733):16-21. Since conducting this interview, another important result from STS research on the pandemic has been published: Sheila Jasanoff et al. 2021. *Comparative Covid Response: Crisis, Knowledge, Politics—Interim Report* (https://compcore.cornell.edu/publications/)

[2] While editing this interview in May 2022, I can add another reference that deals with many of these questions. In December 2021, Trevor Pinch died. The following article was written in memory of Trevor Pinch and to introduce SCOT to a Chinese readership: Bijker, Wiebe E. forthcoming in 2022. "The Social Construction of Technology (SCOT) — and some related philosophical puzzles" 哲學分析 (*Philosophical Analysis*), special issue in memory of Trevor Pinch.

in very different time periods. After all, the central tenet of SCOT is to study technology, while it is developing, through the eyes of the people doing that development. Why would that not be possible with various groups of Chinese producers, users, activists? Why would it only be possible in the Netherlands or in 19th Century Britain?

Now the first question. I never understood this, to be honest. Quite the opposite has happened. In the beginning, SCOT was especially welcomed by feminists. I even remember an instance of being literally embraced by Joan Rothschild, a feminist historian of technology, to thank me for opening up the analysis of technological development to include other actors than only the male white engineers, but indeed arguing for a broad range of relevant social groups contributing to the construction of technology. This gave space for women and other groups who were marginal in the history of technology until that date.

So, I have mostly experienced the opposite, both personally and scholarly, that people from feminist and postcolonial background embraced SCOT as an approach that opened up to also their views of technology development. I do, however, understand where the criticism is coming from. SCOT, as a research heuristics, does not say that women are suppressed or that the basic setup of the world is racist. So, you could criticize SCOT for not taking a political stance on those issues. But that is not something I am troubled by. A core idea in SCOT, like in the Strong Program of the Sociology of Scientific Knowledge (SSK), is the symmetry principle: to be as open as possible, to be as reflexive as possible, to be symmetrical in treating working and non-working machines, to be impartial in analyzing all relevant positions and backgrounds of social groups. A researcher may be criticized for having a racist or cultural bias. That would then be the result of not doing his research properly—ignoring certain archival materials, not interviewing certain people, not mapping particular perspectives. That then should indeed be criticized, as is usual in scholarly practice. But there is nothing in the SCOT method that prevents you from searching in archives for the voice of black people or women. If you don't do that, then it's your choice as a researcher—SCOT did not oblige you to turn a blind eye or make wrong choices. (By the way, this does not mean that SCOT is neutral. Every scientific methodology has built-in values, and we need to continuously reflect on those. But SCOT's built-in values have more to do with symmetry and impartiality than with being feminist or anti-racist. These are ***my*** values but not SCOT's).

I would like to add one thing. There is a bit of a paradox, both in my last response to the questions about SCOT and in my earlier response about the value of having this collaboration between MMEA and me, between China and Europe. The paradox is: on the one hand, I am stressing that something like the SCOT approach is universally applicable; and on the other hand, one of the core findings (perhaps even values) of STS is that there are differences, and that locality matters. And that is a little paradoxical.

So, I am not saying that we will conclude that there is a different Chinese style of scholarship, different from the European. But neither am I arguing the opposite, that there is only one

universal style of scholarship and we are all travelling on that road towards a common end point. I guess that I am basically agnostic as to the universal character of scholarship. I am convinced that there are very important differences in practice, in the local cultures of doing science, and of developing knowledge, also even outside the formal scientific arena. And it is fruitful to compare such different practices. Whether that will ultimately result in having a universal idea or rather a spectrum of approaches, I don't know. But the practices are definitely different and this is valuable. Now, the same applies to SCOT. This is applicable everywhere, until proven wrong. This is not saying that we should not pay attention to the local circumstances and the richness of the variety of different perspectives and positions — on the contrary, SCOT is all about symmetrically treating a variety of positions and perspectives. It is the interplay between a broad framework that you draw upon as long as it is useful and the recognition when specific circumstances make the framework less useful — that was Trevor's point. And this is why I am so happy to collaborate with MMEA and why I am learning from this collaboration.

[Spring 2021]

[End]