

Plenary –insights and questions from Day 1

Chair: Sander Van der Leeuw

GSS conference
Friday 9th November 2012

Sander van der Leeuw:

One of the real things that we all here as academics have a tendency to do is to focus inwards on a particular theme or methodology. However, what is really important here is that we keep the idea of Global Systems Science in front of our heads. The other thing is that this effort has also been organised to **look at the future of ITC**. So ideas about what type of tools, whom and how to engage, or what new tools are needed to model, are the type of questions that we would like to collect from you.

Comments from the audience:

- A key question is what could be done as for now to **build bridges outside the academic world** for GSS.
- To me, GSS is a science of society which must integrate our world. We all know that everything is interconnected with everything else; but the challenge for GSS is to produce a science which **actually shows the nature and actual interconnections of billions of people in an integrated way**. Then, it's us, everywhere, everything, what we need to help to understand...
- In GSS we it's not only big models and concepts what we need to consider. All this needs to be directed and made useable for the public and to support policy makers. **We cannot do science on one side and communication on the other**: we need to make sure that people who make decisions and who we have to communicate issues about GSS really understand what we are doing.

Sander van der Leeuw:

With regard to this last comment, and to make this possible, I'm realising that we **as scientists need to start at the other end**. We first need to listen to the challenges that are put to us by the wider civil society. And this means to create a **different kind of a scientific process** which is not driven just by putting a question after a question and after another question but instead it's about using our expertise in a different mode: to put it at the disposal of such [societal] challenges. These also entail changes in the role of modelling, forecasting, and of the possibility to make experiments, e.g. via the computer, to be able to see what could happen [out of our actions and interventions] before we try them out.

Comments from the audience:

- An important issue is that of **scientific quality in GSS**. A **vision of GSS** should include of **how exactly this community should be collaborating in the future**. This would require a process of visioning together.

- Whom do we work for? We need to develop a GSS which effectively help other citizens to become involved and create this collective awareness. We need to take into account and help to understand us the **interactions between top-down and bottom-up processes and initiatives.**
- **How we communicate and engage other people in this vision of GSS?** And this means not people in the policy level, but also people who don't even know what the question is. ITC is very powerful and we also need to take into account different ways of framing that vision and also the role of educating various publics on the need of that vision.
- Is it worth doing GSS with the present conditions? How are we going to know what we need to know if we don't have the **tools or knowledge to assess the quality, efficiency and the capacity of the process to produce knowledge on GSS** –and how this relates to policy? Before we engage to producing new tools and knowledge we should take these psychological, social and cultural [and epistemological] aspects into account.
- There is a difference between **communications** which are **private** and communications which are **public**, for instance in the banking system. And **GSS should be able to monitor the interactions between the two.**
- In Europe tend to think in terms of civil society versus the state, but this may not be an accurate way of thinking the world today. We now live in a more knowledge-based and information society, so we need to **focus on networks of professionals** –to avoid superstitious ways of public engagement. We can do that in GSS, e.g. in medicine and health insurance. That is it is not enough to consider people in their role of citizens, but mostly as professionals.
- There seems to be **two intellectual strands about ways of thinking about GSS** here. On the one hand, there are people that start from large sets of **structured sets of data of zeros and ones**, so to speak. On the other, there is a way of talking of about the economy **as networks**, and this also has different implications on how to organise our data, modelling and organising our mind. **We need to bring these two together.**
- The number of challenge our societies have to address is frightening (environment, financial systems, energy system, etc). But on other hand, the public have very particular views on these issues [which may not correspond to what is actually happening]. So the challenges for all of us now are not the same as in the French revolution (liberté, égalité, fraternité...). Most people don't even have clear ideas of what is needed to be achieved either. However, we have one thing clear: **most of these global challenges have to do with science.**
- Indeed we need to involve stakeholders, but I think that if we want that people use GSS then we need to **consider societal actors embedded within the many different kinds of institutions which mediate their actions.** Each of these has their own values, and use particular types of narratives and this is a complex issue indeed.

Sander van der Leeuw:

One of the challenges that we face both within science and in the communication of science and getting people to participate, is that **we know relatively little about the effects of any kind of innovation and of the functionality of existing institutions to deal with those innovations.** These *interactions* between innovation and functionalities have been underplayed by many engineering approaches. As we produce such innovation, **all functionalities in society change**, and this task is also what in GSS we should set out to understand.

Comments from the audience:

- We need to identify areas in which we can focus our attention, e.g. starvation and development, and look at other global initiatives already working on global problems and using ICT. One of them is the UN [Global Alliance for ICT and Development \(GAID\)](#) which could be helpful in this context.
- We need to **look for opportunities** –not only global problems- for society and science; so to get the vision straight.

Sander van der Leeuw:

- This may be indeed very true, as it has been argued that the whole climate debate was framed in completely the wrong way and by **framing it in a different way** we might have had a much wider public response¹.

Comments from the audience:

- There are many **'invisible' dimensions** in society that intervene in the processes that relate to the production of science. We should take these factors and perspectives also into account in GSS –e.g., in the production of models (there is a lot of science which is not user-based science).

Sander van der Leeuw:

- **ICT could play an important role in gathering these different perspectives** from different parts of the world on what GSS ought to be.

Comments from the audience:

- I strongly believe in science, but I also believe that science is not enough. So then, what would be enough? At the end of this endeavour, what **we should generate is not only 'knowledge'** [per se] **but to give people tools for change.** All this is about urgent change. If we could give all these tools about what is happening to people.
- GSS should support **changes in societal metabolism**, but should do so first by giving tools to people at the bottom (e.g., consider psychology) but also to people at the top.

¹ See: Jaeger, C. C., Hasselmann, K., Leipold, G., Mangalagiu, D., and Tàbara, J. D., *Reframing the Problem of Climate Change: From Zero Sum Game to Win-Win Solutions.* Oxon, UK, New York, USA & Canada: Earthscan and Taylor and Francis.

Sander van der Leeuw:

- This should lead us to consider the role **reflexive monitoring** processes which are relevant for GSS.

Comments from the audience:

- What is the **epistemological awareness** of the GSS community? Is this community aware of all the different contingencies and partiality of all different types and sources of knowledge (social sciences, mathematics, engineering) which need to be considered in GSS? This should help us / society to make sense of the tools that we develop and how to get the right signals from society and from the other scientific community to develop such tools. This is a challenge about how we frame the making of GSS.

Comments from the audience:

- We are not and cannot be experts in everything that needs to be done. Science in particular has not produced very good tools **to communicate** with others [so in **GSS we should consider**] **the Arts**, which have been doing that from their very beginning.
- Perhaps we should be more modest in our ambition. For instance, when we say that we should bring people into GSS, we in fact can we see many self-organising societal processes already doing it, e.g. by using mobile phones or by new ways of editing publication, but in fact, what is happening it's actually the other way round: it's science being brought into society.

Final remark by Carlo C. Jaeger:

- We have been talking these days about 'the ecology of questions'. Flourishing **Global System Science will happen as a tension between big questions and small questions**. E.g. big questions like how to bridge science and society (the type of conversations and processes needed for that). This cannot be resolved in the short term. But we need also to produce a set of researchable small questions of which we can work. From this we should get four or five big questions and a much longer list of small questions, e.g. the role of particular IC technologies, on city system, medical systems, etc, on which we can work in the coming years. **Openness and active collaboration between all of us here is a precondition for this to happen**. We need to **work towards a set of common questions and documents** on these.

*Summary transcript by J. David Tàbara
In []: added for clarification by J. David Tàbara*