

Speaking Notes for INGENIO on CONNECTING INNOVATION AND SOCIETY: OPEN DEBATE AND THE CREATION PUBLIC KNOWLEDGE GOODS

Presentation: Born in US, Spanish Citizen and working in EU environment. Ecologist, Sociologist, social activist, public interest lobbyist, a hybrid between many cultures, especially between social sciences and physical natural sciences. I worked on the political debate of Horizon 2020 and previously the Seventh Framework Programme for Research and Innovation of the European Union both as a politician and a consumer representative. I will give a few telegraphic theoretical ideas and then I will make some political proposals on science and innovation. david@davidhammerstein.org davidhammerstein.com @DaHammerstein <http://tacd-ip.org/>

The facts of the world all include interdependent elements with mutual reciprocity: cosmic, geological, biological, psychological, social and cultural. They are all with a hierarchical dependence within finite limits.

1. Innovation: Separation or Connection? Modern society usually forgets the obvious connection between 3 communities: objects, human beings and nature. When these 3 communities are studied they are separated radically with very different levels of value, knowledge and activity in academic sub-disciplines. We have created non communicating silos of knowledge. Science has tried to create pure separate zones

between human and non-human, with discourses that are different for each compartment. Innovation studies should try to connect and open up communication between knowledge communities.

2. Science in its cavern ignores social debate.

Questions of science and innovation rarely consider realities that belong to society, such as different rationalities, openness in pluralistic debate, democratic freedoms and human action. These universal principles are seen as completely separate from scientific knowledge that affirms that it relates "objective facts" from the realm of necessity and not the realm of freedom nor subjective belief nor morality. Scientific issues are dealt with as if they were outside of society, they are idealized, seen as pure, as if they were not human constructions and social phenomenon created in concrete social, economic and ideological contexts. Science is a social phenomenon with all its elements of conflict, contradiction, ideology... Today many innovation/science projects take place in a dark, romanticized caves with very little light, little public debate and very little political reflection and projection.

3. Social and political reality that often ignores the representation of the bio-physical world (from science and innovation).

On the contrary of physical science side, we have the social political sphere that only speaks of human affairs of the state, representational government, systems of values, equality, rights, ect., all of which today is almost totally dominated by economicism, the non-realistic fetichism of unlimited economic growth in a finite world. In this

social-political world there is practically no room for the representation of the bio-physical world despite being the basis and prerequisite for most social life. How can we escape this contradiction of a political sphere that ignores the bio-physical world and the enclosed, embattled world of science of physical facts that does not consider social, ethical and political questions? A big mistake we make is to think that social reality is only made and directed by people and for people and not at all by any exterior forces. Social reality is a transcendent inasmuch as the State, laws and citizens that has a sui generis reality above individuals but in practice our reality is made up of very diverse actors that are individuals, things and nature,

4 We need to represent hybrids for real socially useful innovation. Our reality is hybrid and we need to admit it. Is climate change natural or social? Is medicine social or natural? Is nuclear fusion natural or social? We need knowledge systems that bring together at once the bio-physical world and the social, political, cultural, citizen world with its institutions, beliefs and practices where presently they practically have no visibility or relevance. This is an unescapable need for our societies. I hope innovation studies can help this need.

Science, Technology and society is not simply about social contexts or human interests or powers related to scientific practices, but it is also about communities, associations between humans, non humans and things, in which human society is only one part of the

community of networks and relationships woven like a spiderweb by means of language, discourse and representation. Neither things alone nor humans in themselves can be conceived separately and in isolation- this is a dangerous modern myth- because that would jeopardize the referential function of language and knowledge as an external reference (nature of things and nature of society).

Bruno Latour: We have never been modern.

<http://es.scribd.com/doc/38504479/Bruno-Latour-We-Have-Never-Been-Modern>

Positivism: Reality is complex and can't be reduced only to quantitative, segmented physical measurable data. I am not a positivist because I believe in complex, responsible science that goes way beyond Newtonian lineal cause-effect science, and that takes into account the social, environmental and physical complexity and uncertainty of the empirical and connected reality of people, things and nature.

Lobbies in Brussels: 4000 big business lobbyists try to move the EU's scientific and innovation agenda in their direction; only a handful defend public interest. Scientific issues are dealt with as if they were outside of society, they are idealized, seen as pure, as if they were not human constructions and social phenomenon created in concrete social, economic and ideological contexts. Science is a social phenomenon with all its elements of conflict, contradiction, ideology, personal interest.. This

needs to be on the table, transparent and part of the debate in the EU if we are to have socially useful and scientifically serious innovation. There is very little impact of academic proposals on EU research policy while big industry pushes the vast majority of concrete policy proposals in the European Parliament and the European Commission. Most visits by innovation academics to Brussels is to look for funding, not mainly to influence general EU policy.

We pay, we have a right to know. Complex, democratic science and innovation needs openness to debate, both with experts and citizens, openness about sharing data and knowledge, with a firm commitment to guarantee a clear public return for public investment - that is a majority in most innovation processes. Otherwise it is a rip-off of taxpayers and the public interest.

Autism and manipulation between innovation and politics. How can we bring both innovation, scientific studies and the political-social sphere out of their respective caverns? How can we politicize and socialize scientific and innovation debate while bringing scientific debate into the political sphere? Today between the scientific-innovation world and the social-political world there is a mutually autistic and, occasionally manipulative, self-interested, relationship. We cannot leave it in the hands of politicians. The science-innovation community needs to be involved in broad citizen debate with

understandable alternatives about innovation policy on the table.

Zombie Terms: Innovation, Excellence, Technology Transfer.... Almost all are based on market penetration or commercial success or getting monetary resources from private or public sources; not primarily taking into account the social, health or environmental interests of the common good. They are ideological self-serving terms to preserve the present power structure of knowledge governance and these terms have very little to do with any empirical evidence outside of formal categories of stock margins, profit levels and high-level journal publishing, citation and academic promotion. They often represent tautologies (everything new, momentarily profitable or economic growth oriented is innovation), "Knock, knock, there is a real world out there!"

Just a few examples:

1. **Common Good** (health, environmental protection, security and safety, equality, pluralistic debate,): Is this the Nuclear Fusion project with billions of public funds? Where is the debate? Are "innovative medicines" innovative or are they just new with little therapeutic value(as most research reflects)? Is a project excellent if its knowledge, generated substantially with public funds or protected by public regulation is locked-up by Intellectual Property Rights and its eventual products are

unaffordable or inappropriate to 95% of the world's population?

2. Are we stupid venture capitalists? When the state invests in innovation it plays the role of a kind of venture capitalists. Nevertheless, if the innovation is commercially successful, how does the state get its "return"? Public Return of public investment: The state and the EU as risk capitalists, the most important investors in socially useful innovation for the common good. But where is the Return? Is "trickle down" good enough?

3. Open Access: If most research articles are the result of publicly financed projects, why are most of the published articles behind "pay-walls", copyright terms and distribution exclusivity terms signed with scientific publishers? Is it fair that the 3 largest scientific publishers have a profit margin of 38% if most of the articles they publish are a result of research financed by the state and free peer reviews? The EU's Horizon 2020 program mandates open access publishing for all projects that receive EU funding.

4. Open Data: The EU's Horizon 2020 has mandated the progressive promotion of an open data policy that shall become the norm by 2020. This means that data generated with public funds cannot be enclosed by exclusive monopolies of copyright, patents and commercial secrecy. Data bases that back up journal articles must be accessible.

5. Text and data mining: The right to read should be the right to mine with software in scientific research. There needs to be a mandatory exception to copyright to allow the easy use of research articles and data bases for academic initiatives.

5. Intellectual Property Rights: What are incentives for socially useful innovation? The present model of IPR monopolies often does not serve the public interest. Counting patents is not always the best indicator of innovation. The IPR system can become mainly a money making operation, an end in itself, as opposed to an incentive for innovation. Often strong IPR enforcement rules and penalties chill or inhibit useful innovation more that they promote it. For example, it is increasingly clear that patent monopolies in medical innovation is not helping to produce the medicines our societies need. Open innovation models, clinical trial transparency, inducement prizes, patent pooling, public-private partnerships and open source collaborative research are some the the alternatives that need to be promoted. We should remember that much of the innovation in the IT field has mainly taken place within weak or light IPR rules that has permitted wide sharing of knowledge. Many of our laws in the EU do not reflect the need for a flexible IPR environment to promote innovation.

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