Centre de Sociologie de l'Innovation

Spiral

Devices of responsibility

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Dispositifs de responsabilité

Shaping political spaces for research, innovation and markets

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La fabrication des espaces politiques de la recherche, de l'innovation et des marchés

International workshop, Paris, Mines-ParisTech

September 12-13, 2013

La conférence *Devices of responsibility / Dispositifs de responsabilité* est organisée conjointement par le Centre de Sociologie de l'Innovation - Mines-ParisTech et Spiral-Université de Liège, en partenariat avec l'Observatoire pour l'Innovation Responsable, et avec le soutien du DIM IS^2-IT (Innovations, Sciences, Techniques, Sociétés) de la Région Ile-de-France.

Devices of responsibility: shaping political spaces for research, innovation and markets

Current science policies worldwide widely promote "excellence" and "responsibility" of research and innovation as strategic goals to reach. Beyond science and technology, the notion of "responsibility" expands its reach to the very definition of nowadays societies, through the shaping of an economy of knowledge (as with the Lisbon strategy) or of a broad societal trend (such as Horizon 2020).

The conference aims to unfold the politics of "responsible innovation" that is how the expansion of the idea of "responsibility" is being mediated by devices and instruments, how it materializes through individual and collective action and how it speaks to forms of democratic legitimacy. How is "responsibility" translated and enacted through such devices? How does one get scientists, industrials or science policy-makers to behave in a "responsible" manner? Which kind of societies does the materialization of "responsibility" produce? To which extent might research, innovation and markets be transformed by "responsibility", and which understanding of these activities does it imply? Which are the contested registers of responsibility that are being mobilized, and what do they entail in terms of social change? In short, the question we seek to address is how to get a grasp on the articulation of devices of responsibility tied with material constructions and political and economic orders.

To answer such questions, we seek empirical contributions on particular devices of "responsibility" in a large sense of the term, as they seek to shape behaviors, objects or programs in a particular and problematic way with respect to innovation policies. Examples of themes to be addressed include, but are not limited to, the following:

- Individuals, objects or programs "on trial" with responsibility; which sorts of trial for which sort of devices?

- Controversies over contested meanings of "responsibility" as they are at play in the shaping of complex technological issues (stem cells, nanomaterials, …), and how the very definition of these issues brings in many forms of organizing the collective.

- The definition of the European Research Area (ERA) through "responsibility", esp. within the framework of Horizon 2020 or such far-reaching societal programs. How is "responsibility" mediated or operated? Where is European identity shaped or challenged by responsibility?

- What are the devices of responsibility outside of science policy and what are their effects? For example, what does current European economic policies say about the "responsibility" of member states or individual citizens?

- How may social and human sciences appropriate, or being enrolled by problematic, though not always problematized, versions of “responsibility”? Does the expansion of “responsibility” in innovation policies entail shifts in their role and the way they are being mobilized?

- Through particular devices, how is “responsibility” articulated with the politics of “excellence” in research and the overall economic target of competitiveness?

Dispositifs de responsabilité : la fabrication des espaces politiques de la recherche, de l'innovation et des marchés

Les plans de soutien à l'innovation font aujourd'hui de « l'excellence » et de la « responsabilité » des objectifs importants du développement scientifique et technologique. Les initiatives européennes visant à construire « l'Espace Européen de la Recherche » (*European Research Area*) sont significatives de ce double mouvement, dont la stratégie de Lisbonne a défini le cadre.

L'objectif de la conférence est de comprendre la politique de l'innovation responsable, en s'intéressant à la traduction de la notion de « responsabilité » par des dispositifs et des instruments concrets, et aux effets de ces instruments sur les formes d'action individuelle et collective. Comment la « responsabilité » est-elle traduite et mise en œuvre dans de tels dispositifs ? Comment faire que des scientifiques, des industriels, ou des administrateurs de la recherche se conduisent de façon « responsable » ? Quel ordre politique est-il produit par une matérialisation de la « responsabilité » ? Dans quelle mesure la recherche, l'innovation et les marchés peuvent-ils être transformés par la « responsabilité », et quelle définition de ces activités cela présuppose-t-il ? Quels sont les registres contestés de la responsabilité qui sont mobilisés, au travers de quelles constructions matérielles ? En bref, la question que nous posons est celle de l'articulation entre des dispositifs de responsabilité, des constructions matérielles, et des ordres politiques et économiques.

Ces questions seront traitées par le biais de l'analyse empirique des instruments et des dispositifs visant à mettre en forme des comportements, des objets et des programmes « responsables », dans leur relation particulière et problématique aux politiques d'innovation. Les présentations pourront traiter, par exemple, les points suivants :

- La constitution d'individus, d'objets ou de programmes « responsables » : quelles pratiques les instruments et dispositifs mettent-ils en forme, pour quelles mises à l'épreuve et déplacements ?

- Les controverses sur des définitions et enjeux contestés de la « responsabilité », notamment en lien avec la constitution technico-légale de nouveaux objets (cellules souches, embryons, nanomatériaux, etc.) : comment ces controverses mettent-elles au jour des disputes sur l'organisation collective et la définition des objets ?

- La définition d'un espace européen de la « responsabilité » et de ses frontières, particulièrement dans le cadre des grands programmes sociétaux comme

l'agenda de Lisbonne ou Horizon 2020. Comment la responsabilité définit un espace européen de la recherche et de l'innovation ? Quelles sont les modalités de son action ? Où la fabrication d'une identité européenne se noue-t-elle par la mobilisation de la « responsabilité » ?

- En quoi consistent les instruments de la responsabilité dans d'autres domaines que ceux de la politique scientifique, au sens large ? Par exemple, que peut-on apprendre des politiques budgétaires en terme de « responsabilisation » financière des États membres ou des citoyens ?

- Comment les sciences humaines et sociales peuvent-elles s'approprier, ou sont-elles embarquées, par des versions problématiques, bien que sous-problématisées, de la responsabilité ?

- Au travers de quels dispositifs la « responsabilité » s'articule-t-elle avec les politiques « d'excellence » de la recherche et l'objectif stratégique dominant de « compétitivité » ?

Programme

Thursday, September 12

10h — 10h30: Introduction

Brice Laurent & François Thoreau

11h — 13h: Session 1 : Responsibilities in the (un)making

Doing responsible innovation in synthetic biology (*Morgan Meyer*).
Discussion by *Fern Wickson*

La « ville intelligente » ou comment une innovation fait disparaître la responsabilité (*Erika Trinel*).
Discussion by *Romain Badouard*

REACH on trial. European regulatory categories for the market of chemicals (*Henri Boullier & Brice Laurent*).
Discussion by *Jim Dratwa*

Call for Responsibility: an analytical exercise for a renewed Brazilian nanotechnology policy (*Paulo Fonseca & Tiago Santos Pereira*).
Discussion by *Clare Shelly-Egan & Douglas Robinson*

14h30 — 16h30: Session 2 : Private actors in the shaping of responsibility

La « responsabilité sociale des entreprises » au prisme des innovations normatives et technologiques (*Pauline Barraud de Lagerie*).
Discussion by *Erika Trinel*

What about Incentive and Relevance Structures in R&D? Positioning RRI impact as a renegotiation of internal valorisation processes in the development of Nanoscience and Nanotechnology (*Clare Shelley-Egan & Douglas Robinson*).
Discussion by *Michiel van Oudheusden & Nathan Charlier*

International Standards as a Device of Responsible Innovation? (*Fern Wickson & Ellen-Marie Forsberg*).
Discussion by *Henri Boullier*

Friday, September 13

9h30 — 11h30: Session 3: Europeanization by and through responsibility

Where are the politics in responsible innovation? European governance, technology assessments, and beyond (*Michiel van Oudheusden & Nathan Charlier*).
Discussion by *Stevianna de Saille*

Innovating Innovation: Operationalising RRI in the ERA (*Stevienna de Saille*).
Discussion by *Fabrice Flipo*

Europe's collective experiment with research and ethics as a construction of responsibility (*Jim Dratwa & Brice Laurent*)
Discussion by *Paulo Fonseca*

Shaping transparency and openness through devices: The case of the European Commission's Online Consultations (*Romain Badouard*).
Discussion by *Maja Horst*

12h — 12h30: The Observatory for Responsible Innovation of Mines ParisTech : experiments in responsible innovation in Finance, by *Fabian Muniesa*

14h00 — 16h00: Session 4: Politics of responsible innovation

Mapping 'Social Responsibility' in Science (*Maja Horst & Cecilie Glerup*)
Discussion by *Morgan Meyer*

Whose responsibility? Rethinking the questions we do ask through our research *dispositifs* (*Francois Thoreau*).
Discussion by *Cecilie Glerup*

Responsable de quoi ? (Fabrice Flipo)
Discussion by *Pauline Barraud de Lagerie*

16h30 — 17h30: Final comments – Bernadette Bensaude-Vincent
Discussion and next steps

Session 1: Responsibilities in the (un)making

Doing responsible innovation in synthetic biology

Morgan Meyer, Mines ParisTech

Over the past few years, the European Commission has devoted several reports to responsible innovation in the sciences (e.g., nanotechnology, information and communication technologies, life sciences, biotechnology) and its Science in Society work program for 2014–2020 also contains a responsible research and innovation component. Besides the drive through policymakers, we have also witnessed an institutionalization within the academic world, through the creation of chairs, observatories, courses, and conferences dedicated to responsible innovation, as well as an increasing number of publications on the analysis of that concept.

In this paper, I will be concerned with the notion of responsible innovation in the field of synthetic biology. Today responsible innovation is often mobilised and it is frequently discussed besides other framings that address the socio-political aspects of this emerging field, such as its so-called ethical, legal, and social implications (ELSI). However, at the same time, the notion of responsible innovation is also criticised for being too vague and for lacking any clear practical and political consequences.

The paper therefore explores how responsible innovation is made "do-able" by looking at three sites where it is materialised. First, I examine the textual genealogy of the concept through a discussion of its circulation through EU policy reports. Second, I analyse the dialogical operationalization of the term, by looking at recent public debates on synthetic biology. Third, I explore the sociological work done by the concept and show how it provides a link between two poles: the individual, supposed to act in a responsible manner, and innovation processes, which are usually understood as a collective endeavour. I will argue that responsible innovation is not only made "do-able" by particular devices but also by the circulations, translations and mobilities of these devices.

La « ville intelligente » ou comment une innovation fait disparaître la responsabilité

Erika Trinel, Doctorante en sociologie, CLERSE-CNRS UMR 8019, Université de Lille 1

De nombreux travaux en sciences sociales parlent d'une montée des risques et des incertitudes [Beck, 1986 ; Callon et al. 2001]. Ils font état d'au moins quatre évènements majeurs qui sont intervenus ces dernières décennies : les risques technologiques et sanitaires, la raréfaction des ressources naturelles, le dérèglement climatique et la croissance démographique. Posant le problème de la gestion des villes, de la maîtrise des ressources énergétiques et, plus généralement, de la protection environnementale, ces phénomènes appellent à la responsabilité [Jonas, 1998]. Nous constatons que c'est paradoxalement la critique des sciences et des technologies qui propose des mesures en faveur de l'environnement et engage les pouvoirs publics à innover. La responsabilité ne s'entend donc plus uniquement comme principe éthique : les questions qui entourent sa construction conduisent les acteurs qui en ont la charge à réfléchir à la manière dont on peut l'évaluer, la mesurer et la calculer. A travers la fabrication de la « ville intelligente » sur le territoire métropolitain lillois, nous montrons que si la responsabilité est bel et bien au cœur des préoccupations, cette notion renferme des ambiguïtés. Au cours du processus, différentes formes de responsabilité circulent entre les acteurs du réseau constituant le « collectif de recherche » [Callon, 2003].

Au nom des enjeux globaux posés en ouverture, nous proposons d'analyser le projet Sunrise- Lille comme traduction du programme cadre de la recherche et développement européen. Ce dernier vise à l'aménagement de la ville en divers équipements « durables » (logement, transport, services municipaux). Par les possibilités nouvelles de gestion en temps réels des flux de fluides et des populations, de maîtrise des risques (fuites, pannes, surconsommation), la mise en réseaux de capteurs sans contact est censée répondre à cet impératif de durabilité. Conséquemment, les technologies employées dans la mise en place du programme incitent à devenir responsables. Depuis les premiers évènements intervenus dans la construction de la «ville intelligente» (constitution d'une équipe de recherche, signatures d'une chaire industrielle avec Eaux du Nord et d'un partenariat avec le bailleur social Lille Métropole Habitat) et à partir de nos premiers résultats d'enquête auprès de chercheurs, d'acteurs institutionnels et d'usagers, nous mettons en évidence que ces technologies induisent des changements de comportements chez ceux qui en font l'usage. Les effets ne sont pourtant pas toujours ceux qui étaient attendus lors de la conception initiale du projet. On parle d'« effets propres » de l'instrumentation [Lascoumes, 2004].

Ainsi, le projet urbain de Lille Métropole Communauté Urbaine engendre la production, la diffusion et l'appropriation de préceptes de rationalité. Le système d'économie de la connaissance visant à récolter, stocker, trier et traiter des informations pour assurer la sécurité et le bien-être, peut être analysé sous l'angle foucaldien de la « gouvernementalité » : dans notre étude de cas, le concept de « ville intelligente » est un instrument matérialisant une pratique politique. Toutefois, ce sont bien les interactions entre acteurs humains et non-humains qui permettent de comprendre ce qu'est l'innovation. C'est donc comme dispositif socio-technique qu'elle doit être analysée. Suivant la théorie de l'acteur-réseau, nous montrons l'hétérogénéité des acteurs constituant le programme de recherche. Les charges multiples de la responsabilité laisse donc entrevoir de l'instabilité et de l'imprévisible, remettant en cause la robustesse du dispositif supposée par la rationalité des actions. Les principes de rationalité qui entourent la construction de la responsabilité dans le processus d'innovation sont en tension entre les instruments technologiques et les diverses pratiques des acteurs du dispositif (pratiques politiques, scientifiques et ordinaires).

REACH en épreuves : des catégories règlementaires européennes pour contrôler le marché des substances chimiques

Henri Boullier et Brice Laurent

Cette contribution s'intéresse au fonctionnement concret du règlement européen REACH sur les substances chimiques. L'examen empirique de REACH est ici traitée comme une illustration d'un objectif de responsabilité de l'innovation industrielle sur un marché de masse. En considérant la mise en œuvre de REACH comme une opération construisant des catégories réglementaire définissant des objets techniques et organisant la répartition des pouvoirs entre acteurs publics et privés, européens et nationaux, ce texte met en évidence un mode de raisonnement public européen caractérisé par l'expérimentation. Le cas des nanomatériaux permet d'illustrer le fonctionnement de la procédure d'enregistrement, l'exemple des phtalates celui de la procédure d'autorisation – deux dispositions centrales de REACH. À eux deux, ces exemples mettent en évidence le réglage entrepris par la Commission pour flexibiliser les catégories réglementaires et limiter les contraintes imposées aux industriels. Ces initiatives ne sont pas consensuelles : des états membres et le Parlement Européens construisent des catégories réglementaires plus rigides, et par là redéfinissent l'organisation constitutionnelle européenne.

Call for Responsibility: an analytical exercise for a renewed Brazilian nanotechnology policy

Paulo Fonseca and Tiago Santos Pereira, Centre for Social Studies, University of Coimbra

Responsibility has been a keyword among recent policy documents concerning innovation´s governance. The word is not new regarding the relation between science and society (e.g. Butts 1948)[1]. Yet, its refreshed recurrence is associated with novel approaches and methodologies for a renewed confidence on the governance of science. Among diverse political-academic perspectives, there is no agreement on what it is to be responsible or how it should be implemented when imagining a desirable governance scenario. What appears to be indeed consensual is the need to address the heterogeneity of social and cultural contexts, or the local specific conditions that may provide influence to sociotechnical outcomes and eventual moral judgments. In this sense, there have been significant researches that suggest that Brazilian policies regarding nanotechnology have not yet followed the renewed claims to responsibly managing its social, environmental and ethical issues. Following this picture, this work aims to consider possible processes of implementation of distinct programmes tuned with specific meanings and scopes of responsibility in order to provide further understanding for policy making. It draws from empirical research with a Brazilian research network on carbon nanomaterials to elaborate a scenario exercise in which different conceptions of integrating responsibility are considered through the discussion of a fictional government call to fund research networks on nanotechnology. While the choice to adopt this rhetorical device is methodologically inspired by Constructive Technology Assessment exercises, the purpose is closer to what Boaventura Santos call "Sociology of Absences and Emergences" (2006)[2], that is, to unveil and ponder social experiences that are absent in hegemonic epistemology and practices. In other words, the proposed scenario, although grounded on field observations and interviews, is not an embedded future of current Brazilian nanotechnology research landscape; it is rather a useful fiction to discuss how responsibility is present (and absent) in local imaginaries and what reactions could be risen with the implementation of policies based on distinct meanings of responsibility.

[1] Butts, C. (1948) Science and Social Responsibility. Philosophy of Science: 15(2), pp. 100-103.

[2] Santos, B. S. (2006) A Gramática do Tempo: para uma nova cultura política, Porto: Edições Afrontamento.

Session 2: Private actors in the shaping of responsibility

La « responsabilité sociale des entreprises » au prisme des innovations normatives et technologiques

Pauline Barraud de Lagerie, Maître de conférences à l'Université Paris Dauphine
Chercheuse à l'IRISSO (UMR 7170)

Parmi les enjeux contemporains qui entourent la notion de « responsabilité », l'essor de la « responsabilité sociale des entreprises » constitue un objet particulièrement intéressant. Et si la « RSE », comme catégorie de pensée, mérite d'être étudiée du point de vue de sa genèse et de son institutionnalisation (dans le monde académique et au-delà), la « responsabilité sociale des entreprises » doit également être étudiée en tant qu'elle renvoie à des pratiques effectives dans les entreprises – qu'on les juge bénéfiques ou au contraire illusoires. C'est à ce second volet que nous souhaitons consacrer cette communication en nous intéressant aux innovations engendrées par des processus de responsabilisation sociale des entreprises.

Dans l'usage commun du terme, la responsabilité est dite « sociale » lorsqu'elle s'exerce « envers la société » (i.e. au nom d'enjeux de bien commun), et qu'elle n'est pas « légale » (i.e. sanctionnée hors de tout tribunal). De ce fait, la construction de nouvelles responsabilités va certes d'abord de pair avec la production de nouveaux dispositifs normatifs (par lesquelles la société civile fait pression sur les entreprises, lesquelles tentent quant à elles de valoriser leurs engagements) : codes de conduite, chartes éthiques, labels etc. Mais la responsabilisation sociale des entreprises se traduit aussi parfois par des innovations technologiques. Il s'agit donc d'examiner l'articulation de ces deux formes de matérialisation de la responsabilité.

Dans cette communication, nous nous appuierons sur deux recherches conduites, la première sur l'enrôlement des entreprises de l'industrie agroalimentaire dans la lutte contre l'obésité, la seconde sur la responsabilisation des entreprises numériques en matière de protection de la vie privée (*privacy*). En confrontant les deux cas, relevant d'industries à forte dimension technologique (dans le premier cas, c'est notamment la formule des produits qui est en jeu ; tandis que dans le second c'est celle du design numérique), nous montrerons comment les injonctions à un comportement plus responsable conduisent les entreprises à redéfinir, en même temps que leurs produits et services, la responsabilité respective des différents acteurs (entreprises, consommateurs, pouvoirs publics…).

What about Incentive and Relevance Structures in R&D? Positioning RRI impact as a renegotiation of internal valorisation processes in the development of Nanoscience and Nanotechnology

Clare Shelley-Egan & Douglas K. R. Robinson

The concept of responsible innovation has become increasingly visible in nanopolicy, particularly at EU level but also elsewhere (Ferrari, 2010). While responsible innovation started out at the level of policy discourse, it has been extended to 'responsible research' (Robinson, 2009 TFSC Scenario paper) as in the EU Code of Conduct for Responsible Nanoscience and Nanotechnologies Research.

Promoters of responsible research and innovation (RRI) seek to extend scientific responsibility to include future societal impacts of technological development (Fisher and Rip, 2013). Explicit in the RRI rhetoric is the distribution of responsibility across the actors (to be) involved in the development and deployment of nanotechnology enabled products (inviting and/or actively encouraging the contribution of scientific researchers and industrial actors). This is also visible within the broader dynamic of the recontextualisation of science and society, with the broadening valorization of scientific research from scientific excellence, to relevance, in terms of technology transfer and, more recently, the link to societal demands and grand challenges.

Government agencies and policymakers incentivise elements of RRI by requiring the inclusion of ELSA/ELSI in nanoscience and nanotechnology research funding programmes, through provisions in codes of conduct, and so on. While there may be willingness on the part of research and industrial actors to actively "do" RRI, there is caution/hesitation up to reluctance to apply RRI, due to perceived conflicts with actors' everyday responsibilities (Shelley-Egan, 2011) and relevance structures linked to their institutional setting.

Researchers and industrial actors act in their own worlds and relevance structures which provide incentives to act in a certain way and disincentives to act in other ways. Thus their response to the pressure for RRI should be explored through the 'lens' of these particular world perspectives. Certain incentive structures will guide their behaviour and responses to RRI; more importantly, if RRI is to be incorporated into the world of nanotechnology (en) actors, a renegotiation of relevance structures will be necessary.

In this paper, we move away from the well-trodden path of listing RRI initiatives, to explore the less well- trodden research line of the collision of incentive and relevance structures related to RRI. The collision occurs when RRI initiatives developed by promoters

of RRI[3] come face-to-face with ongoing activities in research laboratories and firms, with their own internal relevance and incentive structures.

The paper is built on the combined PhD projects of the authors, both involved in the role of RRI and ELSA inside the world of nano R&D, and additional research in early 2013.

[3] Often governance actors, non-governmental organisations and scholars of social sciences and humanities.

International Standards as a Device of Responsible Innovation?

Fern Wickson[1,2] & Ellen-Marie Forsberg[2]

1. *GenØk Centre for Biosafety, Tromsø Norway*
2. *Oslo and Akershus University College of Applied Sciences, Oslo, Norway*

The concept of "responsible research and innovation" is rapidly gaining political currency. One of the first areas in which there has been a concerted effort to functionalise this concept has been in the governance of nanoscale sciences and technologies. Here widespread scientific uncertainties and a lack of specific regulatory frameworks, combined with the potential for social controversy, has generated a willingness to experiment with governance mechanisms. To date, the effort to advance responsible research and innovation in nanoscale sciences and technologies has focused on the (public) scientific laboratory as a site of innovation and national funding bodies as significant actors shaping innovation trajectories. This presentation will therefore explore the neglected realm of international standards as a site and device for furthering responsible innovation, particularly in the field of nanoscale sciences and technologies.

International standards play a significant role in shaping a) scientific research (e.g. on the risks new technologies may pose to human health and the environment), b) technological innovation (e.g. through their explicit aim to facilitate international trade), and c) regulation (e.g. through their use as indicators of quality in science for policy). Despite this, international standards typically remain black-boxed and backgrounded in research on the practice of science, innovation and policy. In this paper, we will demonstrate how international standards are entangled in and enacting the emerging discourse of responsible research and innovation. This will include highlighting our ongoing research into an initiative within the European Committee for Standardisation (CEN) to develop a standard for "Nano-responsible development", as well as a large-scale coordinating European project (NANoREG) seeking to develop standards for the safety testing of nanomaterials. Following this demonstration of how international standards are being developed to try and further both responsible research and innovation in the nanoscale sciences and technologies, we will turn to reflect on the process of standardisation itself and specifically ask whether it fulfills emerging criteria for responsible innovation.

In this latter part of the paper asking whether the practice of standardization itself can be considered responsible, we will start by surveying different definitions of responsible innovation before adopting that proposed by Owen et al. (2013) for our analysis. Accordingly, we will discuss whether the process of developing international standards for science, innovation and policy can be considered to be 'anticipatory', 'reflective', 'deliberative' and 'responsive'. Concluding that according to these criteria, standardization is in fact highly

irresponsible, we will present an argument for why this interstitial space of standardisation requires increased attention as a device if we hope to achieve responsible research and innovation.

Reference

Owen, R., Stilgoe, J., Macnaghten, P., Gorman, M., Fisher, E. and Guston, D. (2013) "A Framework for Responsible Innovation" in R. Owen, J. Bessant & M. Heintz (eds) *Responsible Innovation* (John Wiley and Sons).

Session 3: Europeanization by and through responsibility

Where are the politics in responsible innovation? European governance, technology assessments, and beyond

Michiel van Oudheusden and Nathan Charlier, Spiral, University of Liege

Responsible innovation (RI) is founded on the idea that the introduction and adoption of technology in society fails when technologies do not reflect societal needs and values. Hence, proponents of RI solicit society's opinions in an attempt to render technology developments and policies more socially responsive. Solicitation typically takes the form of broad consultations involving as many relevant stakeholders as possible, in ways that enhance inclusiveness and deliberation. This paper asks how the RI concept is taken up and elaborated, based on accounts developed on the EU policy level (notably, by the EU Commission and von Schomberg) and on a more scholarly-grounded, technology assessment level. It finds that, notwithstanding important differences between these two frameworks, neither one leaves much room for *politics,* understood as the constitution and contestation of power. Rather, these conceptions largely ignore the *politics in deliberation* (e.g. how actors craft RI through strategic use of argument and other advantage-seeking techniques), as well as how RI privileges a deliberative definition of democracy, possibly at the cost of participatory and representative perspectives. Last, these conceptions forsake questions about the *authoritative allocation of values* (as in formalized, representative politics), which renders them institutionally weak. The paper's aim is to provide a constructive criticism of the RI paradigm by rendering the above political issues explicit and proposing ways of taking them into account. This aim is partly motivated by the authors' present attempt to launch a parliamentary technology assessment program in the region of Wallonia that is not oblivious to questions of politics-power and hence opens possibilities for new, or different, articulations of responsibility and innovation.

Innovating Innovation: Operationalising RRI in the ERA

Stevienna de Saille, Leverhulme Research Fellow, Making Science Public, Department of Sociological Studies

This paper analyses the socio-historic construction of Responsible Research and Innovation (RRI) as an emergent concept within the European Research Area (ERA). Created in 2000, the ERA is expected to play a key part in creating a 'truly European framework' for the new Innovation Union and other initiatives developing as part of the Europe 2020 programme. While discourses of 'sustainable growth' and 'growth-through-innovation' have long dominated EU science policy, 'Responsible Research and Innovation' (RRI) as an integrated concept is the result of a research workshop organised by the European Commission in 2011. Although it builds upon arguments which have developed over several decades of discussion about research ethics and responsible innovation (Owen, Macnaghten and Stilgoe 2012), in this form it is therefore relatively new. The stated purpose of RRI is to promote innovation in accordance with 'European social values' by embedding transparency, accountability, sustainability, and continual involvement of the public at all stages of the innovation process (Sutcliffe 2011). However, it is also embedded in a context of severe economic crisis, which may distort or impede its intended goal(s).

Through a textual analysis of historical and contemporary documents relating to EU research and innovation policy, the paper will explore the processes through which RRI is being operationalised as a 'truly European' value for the ERA. What is produced by the addition of ‘research’ to the concept of ‘responsible innovation’, in light of the ERA's mandate to produce a borderless marketplace of flexible, mobile researchers? Comparing the tensions inherent in these two projects suggests that the construction and operationalisation of RRI as part of developing a growth-producing European knowledge economy through the completion of the ERA is itself an innovation requiring novel up- and midstream democratic governance processes in order to become truly responsible, particularly to the researchers it affects. The paper concludes by discussing ways in which RRI might be opened to a wider involvement of stakeholders, including social movement and civil society organizations, in its formative stages, so that the 'needs', 'ambitions' and 'values' it reflects do not uncritically promote the return of pre-crisis approaches to economic growth, nor create new forms of inequality in the shape of a pan-European research elite.

Europe's collective experiment with research and ethics as a construction of responsibility

Jim Dratwa et Brice Laurent

This paper discusses the recent focus on « responsible innovation » in Europe, and situates its logic within the institutional framework of the European Union in order to characterize its political effect. Two streams are identified in the development of the current "Responsible Research and Innovation" (RRI) strategy. First, the development of advisory capacity at the Commission about ethical matters was initiated in the early 1990s and comprised references to an objective of "responsibility". Second, the more recent formulations of the European nanotechnology policy were opportunities to display an ambition of "responsible development", which was translated into discourses and policy instruments. One can identify within these two streams concerns for competitiveness and democratic legitimacy, which play out at the level of the forms of control exercised on individual researchers, private companies and member states. Eventually, they result in the current call for "responsible research and innovation". By describing the institutional evolutions with the European Commission's Directorate-Generate for Research and Innovation and the re-definition of both problems deserving examination at European level and ways of involving publics in doing so, we discuss the experimental approach undertaken by the Union in defining responsibility as a collective objective, and its political effects.

Shaping transparency and openness through devices : The case of the European Commission's Online Consultations

Romain Badouard, CSI/Mines ParisTech

Following the reform of the European Governance in the early 2000's, the European Commission has undertook a reform of its consultative mechanisms which mainly relied on an online consultative platform called Your Voice in Europe. The goals of this platform were both to regulate the relationships between the Commission and the lobbies, to mobilize new sources of expertise within the European Civil Society, and to open the consultative process towards lay citizens. The example of Your Voice in Europe thus gives a good example of how principles such as transparency, responsibility, openness and participation become embedded into a device, as the platform differs from many other participative websites. Indeed, the participants of a consultation on Your Voice in Europe have to participate in their own name (no alias allowed), they are categorized with regards to their statute (organization, public authority, citizen), they do not benefit from any space of exchange (such as forums), their contributions are made public online, and the Commission has to communicate on how these contributions are taken into account. The model of participation that is shaped through this website is quite specific and shows how websites can perform political principles by assigning roles and resources to participants, shaping their actions and framing their interactions.

Session 4: Politics of responsible innovation

Mapping 'Social Responsibility' in Science

Maja Horst & Cecilie Glerup

The paper investigates the discourse on social responsibility in science as it appears in academic journals. Through database searches a collection of more than 300 papers have been analysed in order to map their answers to the following three questions:

- What is the central problem that threatens responsibility in science?
- What are the central aspects of science or its relation to society that need to be regulated or changed?
- What kinds of solutions are imagined and how are these solutions supposed to be put into place?

On this basis the paper explores how different interpretations of the notion of social responsibility of science imply different forms of governance of and within science. The paper employs a Foucaldian discourse analysis to understand how a particular conceptualisation of responsibility implies a political rationality, i.e. a particular form of governance of science.

The analysis identifies four different political rationalities. They differ according to whether they advocate internal or external regulation of science and whether they are focused on regulation of the process or the outcomes of science. They all imply, however, that a particular relationship between science and society is necessary in order for science to be responsible and that scientists need to conduct their science within the structure of this relationship in order for their practice to be legitimate and proper.

Whose responsibility? Rethinking the questions we do ask through our research *dispositifs*

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Research integration has become a part of a larger "responsible innovation" program in the case of nanotechnologies and beyond. It reads as a renewed attempt to socialize scientific knowledge and to make it "responsible", leaving aside which society and whose responsibility are at stake. This paper doesn't seek to answer those questions. However, it argues that situated meanings of both those notions are granted and locally articulated while engaging "science and technology practitioners". In the case of the research program Socio-Technical Integrated Research (STIR), I feedback on my own experience as an "embedded humanist" to show what a research *dispositif* can do to practitioners, how it frames them and allocates specific responsibilities. In other words, in what could be called a reflexive manner, this paper attempts to outline the politics of such dispositifs, namely by paying attention to what social sciences do instead of what they say they do — a very STS move which I argue is very timely with respect to the tremendous rise of "responsible innovation" in our academic community. This contribution has therefore no intention to delineate the "rightful" idea of responsibility nor "innovation" and to stabilize them once and for all. All the opposite, it suggests that we pay careful scrutiny to the local meanings of such notions as they are enacted through our research *dispositifs* and the questions that they do address to practitioners.

Responsable de quoi ?

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Cette contribution voudrait proposer une mise en perspective longue de l'idée de « responsabilité ». Au 19ème siècle se met en place une conception précise de la « responsabilité » : aux institutions « démocratiques » de mettre en place les règles du jeu, via la représentation nationale, et au marché de produire la richesse. L'entreprise n'est responsable que du profit qu'elle fait (Friedman) et de respecter les lois. Le citoyen produit la règle collective en la déléguant à des représentants. Les inégalités de pouvoir sont corrigées via divers dispositifs tels que l'Etat-Providence. Le « développement » c'est la croissance économique. L'Europe se construit aussi par l'intégration économique. Ce processus semble n'avoir de fin que celle envisagée par Marx : un marché mondial ayant absorbé toutes les particularités locales et généré une immense chaîne coopérative. Ce schéma issu des sciences économiques est largement importé en sciences politiques (Badie, 1999) et plus encore dans les études sur le développement. La guerre est devenue une guerre commerciale, le « doux commerce ».

Avec les enjeux de « développement durable » ce système se grippe. L'innovation, définie jusque-là par le gain économique qu'elle permet (rendements croissants), est contestée. Elle génère des externalités d'ampleur toujours plus importante (ozone, changements climatiques etc.). Elle est minée de l'autre côté par la hausse des matières premières, conséquence de leur raréfaction. Le « développement durable » prend la forme de trois grandes réponses.

La réponse technologique s'inscrit dans la continuité du passé : la « domination de la nature » qui a fonctionné hier peut encore jouer demain, il n'y a pas lieu de s'inquiéter outre mesure. Toute la responsabilité est reportée sur les scientifiques, les entreprises et de manière plus secondaire l'Etat. Il faut trouver les innovations qui vont changer la donne.

Prenant acte de ce que les laboratoires ne recèlent plus, comme par le passé, d'innovations « de rupture » de taille à surmonter les difficultés, un second courant voit le développement durable comme un moyen de discuter les changements de mode de production et de consommation. Ainsi se dessine une zone clair-obscur dans laquelle on trouve aussi bien des opportunistes qui entendent surfer sur la mode du « responsable » que des entreprises qui ne sont plus totalement à but lucratif, sans relever non plus d'une forme ou d'une autre de « socialisme ». Quelque chose d'autre cherche à s'inventer, un entrepreneuriat à but « sociétal » en quelque sorte. Les démarches sont pragmatiques mais elles ne peuvent cacher la rupture qu'elles inaugurent, par rapport au modèle dominant fondé sur la croissance économique. Cela vaut aussi des institutions de représentation : les associations s'invitent

dans le débat, et les institutions en place (science, représentation nationale etc.) sont vivement prises à partie. La « responsabilité » est plus diffuse, moins formalisée, ce qui suscite souvent une réaction de rejet de la part des autorités, qui voient dans ces mouvements un risque de désorganisation voire d'anarchie.

Une troisième interprétation du développement durable va encore plus loin et cherche à prendre la mesure de la rupture qui se joue en termes de « civilisation ». S'interrogeant sur les spécificités de ce qui s'est mis en place au 19ème siècle, elle cherche dans les marges et notamment dans le tiers-monde les ramifications d'une alternative globale, en termes de conception de l'avenir, découvrant par exemple que les manières un temps jugées dépassées de faire démocratie ou de produire les richesses peuvent avoir une certaine pertinence dans la situation qui est la nôtre. La responsabilité gagne encore un cran de profondeur et se fait rupture avec l'ordre établi, à l'image par exemple de Pierre Rabhi.