**Technology Assessment and neoliberal STI policies as dancing partners: critical insights in the new spirit of Technology Assessment**

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**Abstract for the session on “the politics of TA” (3rd European TA conference)**

To paraphrase Luc Boltanski and Eve Chiapello’s famous monograph on capitalism (2006 [1999]), this paper hypothesizes that to successfully develop or simply to survive, Technology Assessment needs a *spirit*, that is, an ideology that morally justifies actors’ engagement in TA. The corollary of such a hypothesis is that investigating the spirit of TA necessarily involves paying due attention to politics of TA (Delvenne et al. 2015). In this respect, I will ask the questions: is there a new spirit of Technology Assessment as there is a new spirit of capitalism? What does it imply for TA practices, rationales and methodologies? To address these questions, I will explore the tension surrounding two interrelated sets of science, technology and innovation (STI) policies that evolved together in Europe since the 1980s onward. On the one hand, I focus on the expanding process of neoliberal policies unconditionally supporting STI as strategic resources to generate growth and competitiveness. On the other hand, I link this process with policy decisions to institutionalize Technology Assessment processes and activities to frame and anticipate the potential side effects of STI in newly emerging strategic science regimes. TA and neoliberal STI policies coevolved as “dancing partners” (Rip 1992), relatively independent and closely interacting at the same time. I inquire into the experimental, transforming character of TA by linking its emergence and development to the broader institutional setting of which it is a part. My analysis brings a macro-sociological and political sensitivity to bear on TA and its politics. Rather than conceiving of TA as a mere management tool or neutral governance technique, I suggest that TA processes enact, as well as counteract, dominant innovation policies. Conversely, I look at recent TA de-institutionalization processes in Flanders and Denmark to offer some reflections on the future of TA. Based on previous researches and on participatory observation in a European FP7 project aimed at expanding TA institutions in Europe, I question TA’s ability to exert its critical capacities if it is to survive only as an instrument aligned with recent policy discourses, particularly responsible research and innovation, that emerged in the aftermath of Lisbon’s strategy.

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**2. The (unacknowledged) politics of TA**

To paraphrase Langdon Winner (1980), we argue that *TA has politics*, and that this is a potentially good thing not to be ashamed or afraid of.Indeed, as we explain elsewhere (see Delvenne et al. 2015, van Oudheusden et al. 2015) TA is typically associated with a political preference for more participatory or deliberative modes of decision making, supporting the ideas of publics’ “empowerment”, “policy enlightenment”, “healthier aging” or “sustainable development”. These preferences are not neutral. They have been reproduced in a great number of European countries where left-wing political parties play, or played, a key role in institutionalizing TA (Delvenne 2011). As van Oudheusden (2014) notes, TA’s political affiliations are often denied or downplayed across TA communities. TA is typically framed as an analytic activity aimed at providing decision makers with an objective analysis of a technology (van Eijndhoven 1997) and/or as an interactive and communicative tool that aims to enrich the basis for public debate and STI decision making (Decker and Ladikas 2004, see also the EPTA website). These broad designations (i.e., geared towards all political factions and to the benefit of all innovation actors) risk trivializing and undermining the very policy changes TA advocates seek to instigate when TA is associated with *specific* political parties or politicians (Delvenne et al. 2015: 26). The claim of neutrality as a “legitimatory myth” for TA has undoubtedly been helpful to anchor the approach in evidence-based modes of policy-making. However, the recent de-institutionalization processes in Flanders and Denmark may lead the TA communities to reassess the myth’s usefulness and relevance.

Today, TA communities themselves are looking through the cracks of parliamentary TA as-we-know-it and are beginning to wonder if it is still bearable and productive for TA to “restrict itself to the role of a ‘knowledge broker’ and refraining from taking a strong political stance in terms of recommending specific political action” (Hennen and Nierling 2017). In this paper, we argue that TA should give up the chimera of neutrality and run the risk of facing the implications of taking sides in order to advance critical ideas and to deepen societal debates from the privileged position it enjoys at the intersection of STI, politics and society. Assuming its politics, ‘partisan’ TA should not be taken as political parties’ research units, but it would for sure have immediate political relevance. If TA is not or cannot be a “neutral” governance or policy advice tool, then it has to assume the inherent normativities well-entrenched in its DNA. Still, both conceptually and through its modes of operation (e.g. methods and concepts, publications, policy interventions), TA is intrinsically normative as it purports a different socio-technical order *to be;* indeed, as TA practitioners purport a more inclusive and equitable science-society relationship than is presently the case and act on their commitments to improve technology in society, they engage with ethics in a broad sense (Lucivero et al., in preparation). However, the normative-ethical agenda of TA is rarely rendered explicit and actively reflected on within TA communities. Armin Grunwald, the Director of the German PTA, diagnosed the normative deficit of TA as early as 1999 but it seems that a substantial part of that diagnosis is still valid today. As a consequence, TA practitioners overlook a whole range of questions that have methodological, practical, and political implications for TA and the broader context in which TA plays out.

Especially now that TA is facing a de-institutionalization trend, it needs supporters who will not shy away from defending an instrument that corresponds to their political preferences and democratic theories and ideals.

1995: OTA’s dismantling (for various reasons — Gibbons, political change, etc. cf. literature, including the fact that TA was nevertheless still accused of being secretly serving the Democrats’ needs. In other words, even when TA’s neutrality is widely acknowledged and established, the argument of a lack of neutrality strikes back *anyway*.

2012: IST was abolished, with the active support of some parties, the complicit acknowledgement of some others and without the support of the Greens.

2012: DBT was downsized and became a private foundation.

While the claim of neutrality as a ‘legitimatory myth’ has undoubtedly been helpful to anchor TA in evidence-based modes of policy-making, we argue that it may cause more harm than good for the future of institutionalized Technology Assessment. Cracks are indeed everywhere in that myth, which TA propopents have been pursuing and reproducing for almost half a century. They still fall short in seeing it under another light. Yet de-institutionalization of TA has continued and, clearly, we’re reaching the limits of the productive character of claiming to be neutral.

1. **The spell of post-political rationales and concepts**
2. Reflexive modernization

TA has always found a hospitable ground in post-political sociological and democratic theories. In its early days, TA emerged as a response to the “organized irresponsibility” of risk society. Several scholars, including one author of this paper, understood TA as a key component of (and institutional response to) reflexive modernity (Hennen 1999, Delvenne et al. 2011, Delvenne 2011). In the literature on reflexive modernization the aim is to explain how Western countries have entered a period of change of the modernization they have known before (Beck 1986, Beck 1992, Beck et al. 1994, Giddens 1990: 174-175). Modernization is a process associated with a specific time period (eighteenth century to the twentieth century) and geographical location (the Western world). A key part of modernity is a mode of thinking in which technology is seen as advancing and consolidating the modernization process (Schot 2003: 257). Although the ties between modernity and ideologies of progress and technology remain powerful and sometimes unquestioned, these relationships are at the same time thoroughly challenged and discussed (Hennen 1999). Technological development is not automatically equated with progress and modernization, even if such equations are put forward again and again, recently for genomics, nanotechnology or artificial intelligence.

While there are attempts to identify macro trends, there is no single and definite view of reflexive modernization in the literature. We had better speak of a mosaic of diverse, complementary or competing trends that can be studied apart from one another but still as a specific features of contested reflexive modernization (Schot and Rip 2009).

The strong claim of the reflexive modernization literature is that certain phenomena have weakened the traditional social structures and brought the modern society closer to a time of structural dissolution (1992), undercutting the foundations of modern Western societies. Phenomena of globalization, the ecological crisis, the intensification of the individualization, the transformation of gender roles and the decline of full-employment society have been emphasized (Beck et al. 1994). When the key institutions of the last modernity (nation-state, political parties, national borders, trade-unions, nuclear family,...) lose their foundations and historical legitimacy another modernity may emerge said to be reflexive. Reflexivity acknowledges the limitations of traditions to address a realm of change where uncertainty is no longer contained within modern structures. One component of reflexivity is reflexive action, always having an anticipatory component. This requires intelligence about what might happen and structured knowledge about patterns and dynamics. One can link this with the emergence of a range of institutions and processes addressing the future (still in a variety of ways). Parliamentary Technology Assessment institutions are one example (Delvenne 2011).

Ongoing transformations are also visible in the relationship between S&T (science and technology) and society as well as the necessity to modulate their co-evolutionary dynamics (Rip 2006). At stake are for example the roles of scientific experts and lay people in a modern society under tension and characterised by a blurring of traditional boundaries.

Our current societies are not societies where the level of risk is higher, but societies where the dominant logic of the industrial age, namely that it can control the risks it produces, is breaking down (Nowotny et al. 2001: 14). Another component of reflexivity is then a heightened awareness that mastery is impossible and that (full) control over actions must be considered as “modernist fiction” (Latour 2003: 36).

For the current generation of (Parliamentary) TA institutions, further features of reflexive modernization are important. The public attitude towards science and technology is ambivalent. This is not only fuelled by accidents and other impacts of technology that became visible, but also by a critique of centralized large-scale technologies that is revealing a shift to other social and moral preferences and values (Schot 2003, Irwin and Wynne 1995). In passing, we note that the common assumption (shared by Beck and Giddens) that citizens at some earlier time held out an unqualified trust in professional experts, must be modified. Wynne (1992) and Irwin and Wynne (1995) argue that this attitude reflects a limited understanding of public acquiescence. Rather than a simple acceptance of experts, the phenomenon is intricately tied to the citizen’s recognition of his or her social and institutional dependency on them. It represents the citizens’ awareness of the power that experts and expert institutions exert on their own lives and the need to assume this dependency (Lash et al. 1996: 45-80, Fischer 2000: 62-63).

Nowadays, controversies surrounding scientific and technological issues (like for instance BSE, biotechnologies, climate change, nanotechnologies, human enhancement) not only occur, but are expected to occur. Increasing attention is paid to the unintended side-effects of S&T (Joss 1998, Callon et al. 2001), and some TA scholars have defined TA as the analysis and assessment of unintended side-effects (Hennen 1999, Delvenne 2011). According to Beck, we are living in the age of side-effects, and precisely that is what is to be decoded – and shaped – methodologically and theoretically, in everyday life and in politics (Beck 1992). Opponents to specific technological developments or promoters of alternative pathways in science and technology are getting more of a hearing (Hess 2007).

These features (or trends) of reflexive modernization are intertwined in today’s modern societies and institutions. Accordingly, in terms of governance, the responses provided to address complexity and to handle the side effects of science and technology reflect a multiplicity of regimes and practices. For TA and TA institutions, a key challenge is anticipatory knowledge of unintended side-effects and more generally.

One aspect that is clearly a blind spot in reflexive modernization concerns the attention paid by its key proponents to ‘the political’, understood as the constitution and contestation of power. In Beck and Giddens’ narratives, reflexive modernization processes are not indicating the terminal crisis of modernity but, rather, through modernity’s own radicalization and self-confrontation, the victory over older modes of democracy and policy-making. To them, what the interrelated spread of globalization and individualization reveals is the advent of a post-political world, in which collective identities and differences among Left and Right are fading away. In these conditions, with little differences from one political party to another, it’s no surprise that TA supporters advance the claim of serving all political factions.

Under conditions of reflexive modernization, Beck stresses that “what used to be a socially conditioned biography is gradually transformed into a biography in which the individual is free to make decisions about the organization of his life” (Jansen and Van der Veen 1992). ‘Self-reflective biographies’ (Beck 1992) show that it is not only modernity, it is also politics that appears to become a victim of its own success. On the one hand, he notices the drop of voters’ participation in the formal channels of democratic politics and, on the other hand, he stresses that an increasing number of people are taking up political issues, either individually or in associations, movements and protest groups – but seek to tackle them from *outside* formal politics (Holzer and Sorensen 2003: 79). By coining the terms ‘subpolitics’, Beck then draws attention to the fact that we way be looking for politics in the wrong place, as the ‘real’ political issues are now emerging in the ‘techno-economic’ sphere and being addressed by ‘new social actors or movements’, that is, beneath and beyond the democratic institutions of the nation-state, *thus beneath and beyond TA too*. This diagnosis serves as a basis for the argument that politics thus needs to be reinvented and that classical political categories and ideologies are of little help to this aim. Modern risks and induced side effects of industrial modernity are posing an existential threat to our way of life. To adequately respond to that threat, Beck asserts, it is necessary to adopt a ‘generalized scepticism’ about truth, which is not the prerogative of experts anymore, and to agree on new modes of democratic politics which will facilitate the advent of a consensual cosmopolitan order. Clearly, TA would be one case in point.

With slightly different terms (‘manufactured uncertainty’, ‘post-traditional society’) but pointing at similar phenomena, Giddens develops the same diagnosis as Beck’s, arguing that *beyond Left and Right* (XXX), “life politics” today is the key issue, which “concerns political issues which flow from processes of self-actualization in post-traditional contexts, where globalizing influences intrude deeply into the reflexive project of the self, and conversely where processes of self-realization influence global strategies” (Giddens 1991: 214). Just like Beck, for Giddens, the rise of individualization in a context of globalization is challenging traditional politics but it will ultimately lead to a better outcome, democratizing democracy. To reach that outcome, however, it will be necessary for lay citizens and experts to engage in ‘pure relations’, which appear to be the only way for reflexive individuals to express their ‘active trust’ in ‘expert systems’ and to facilitate the emergence of a dialogic democracy.

Responsible Research and Innovation

RRI is the blunt expression of an oxymoron. As such, innovation *cannot* be responsible due to the inherently uncertain and disruptive process of creative destruction that characterizes innovation (Schumpeter 1942). Therefore, RRI reflects the need to reconcile a tension between the unconditional support of STI as strategic resources to generate growth and competitiveness and the acknowledgment that it is far from automatic that STI will meet the needs and concerns of citizens or contribute to an increase of their well-being. Two perspectives can be derived from this observation (Thoreau 2013) and related to TA practices. The first perspective revolves around the idea that RRI would be a response to what the German sociologist Ulrich Beck (1992) calls “organized irresponsibility”, which designates the systemic denial of risks within modern cultural and industrial structures. Beck uses these terms to point at a contradiction between an emerging public awareness of technological risks produced by and within the social-institutional system on the one hand, and the lack of attribution of systemic risks to this system on the other (Mythen 2007). According to him, the advent of a “risk society” is characterized by a shift in the power play between the production and distribution of “social goods” (healthcare, employment, sustainability, wealth) and the production and distribution of “social bads” (environmental pollution, contaminated food-stuffs). Progressively, and largely unconsciously, welfare state societies have drifted away their central focus on the positive acquisition of “goods” towards a negative logic bound up with the avoidance of “bads” (Mythen 2007: 798). To counterbalance the side effects of industrial and technological progress, following Hennen (1999), I have argued elsewhere (Delvenne 2011, Delvenne et al. 2011) that TA emerged as a practicable institutional response to real-world challenges that are hard to control, such as sociotechnical uncertainties, controversies, and public ambivalence about technology developments. These developments played out in the context of ‘reflexive modernization’ (Beck 1992; Beck et al. 1994; Beck & Grande 2010) in which modern societies and institutions are thrown back on themselves. From that perspective, the addition of the wor(l)d “responsible” next to “innovation” reasserts the possibility of modulating the co-evolution of science and technology in society (Rip 2006, Fisher et al. 2006) and sustains the modernist fiction that the side effects of industrial modernity can be kept under control. Nevertheless, one can still argue that this is exactly what Technology Assessment has been doing for the last five decades, so why would we need a new concept, if it turns out to be just old wine in new bottles?

This leads me to stress a second perspective from which to look at RRI as an oxymoron. It sheds light on the blatant absurdity of a figure of speech, which, to me resembles a diversionary tactic (Gutwirth and Christiaens 2015, Méheust 2009) for absorbing, rather than reconciling, an irreducible tension — how to justify unconditional support of STI while assuming the side effects of its developments —*without putting it into politics*, which is precisely the central aim of TA. Under that perspective, RRI results in an approach avoiding any true disturbance of the development of new innovations (Thoreau 2013). As van Oudheusden has convincingly argued, there is not much room for politics *in* RRI. The approach “largely ignores questions about the politics in deliberation (e.g. how actors craft RRI through strategic use of argument and other advantage-seeking techniques), as well as the politics *of* deliberation (e.g., how RRI privileges a process definition of democracy at the cost of participatory and representative perspectives). He adds that “proponents of RRI typically present RRI along procedural lines rather than political ones; that is, they emphasize the importance of talk, deliberative argumentation, and due procedure without attending to questions of power, ends, and authority that play out in, and through, RRI processes” (ibid: 3). For van Oudheusden (2014), the neglect or rejection of politics, understood as the constitution and contestation of power, is a common feature of both RRI and TA.

A crucial difference between TA and RRI, however, is that RRI posits innovation as a *good in itself* (Dodier 1993), meaning that it is a goal worth pursuing as such. The underlying logic is that it would be immoral to oppose or contest the development of innovations, especially when it is expected from them to fix a set of epochal crises and grand challenges (Tyfield 2012). To make sense of what makes that rationale “responsible” to the tenants of the approach, it is heuristically illuminating to confront what they take as good in itself to what they implicitly consider as bad in itself (Goulet 2016), namely strong public dissent or resistance to the adoption or the development of new technologies. From a historical perspective, it is no surprise if at the EU level the development of RRI went hand in hand with the development of nanotechnologies (Thoreau 2013). At stake was the felt need to “get it right from the very beginning” (Roco and Bainbridge 2005), in order to avoid the failure of the GMO moratorium and to eschew “irrational” struggles resulting from misunderstandings and leading to impracticable policy decisions (Grunwald 2014).

Therefore, for innovation to be governable, RRI distributes responsibility to supposedly rational and autonomous individuals. By promoting the adoption of soft governance tools, like codes of conduct, RRI develops into a new form of governmentality (Thoreau 2013, van Oudheusden 2014); that is, a strategy to intervene in science and technology to rationalize actions and control actors from a distance (Rose 1999, Foucault 2008 [1978]). RRI therefore reproduces the constant denial of the system of ‘organized irresponsibility’, which “manifests itself in […] technically orientated legal procedures designed to satisfy rigorous causal proof of individual liability and guilt. This self-created dead end, in which culpability is passed off on to individuals and thus collectively denied, is maintained through political ideologies of industrial fatalism: faith in progress, dependence on rationality and the rule of expert opinion” (Elliott 2002: 297-298). In other words, as RRI elevates innovation as a “social good”, at the same time, it diverts public and political attention from the “social bads” induced by innovation. To ensure the rightful distribution of responsibility, RRI promotes the “co-responsibility” of industrial and societal actors, implying both a transfer of responsibility at the level of individuals and a collective appeal to responsibility supported by public debate. However, by considering that “upon everyone’s shoulders rests a particular moral obligation to engage in the collective debate that shapes the context for collective decision making” (Owen et al. 2012: 756, Von Schomberg 2007), RRI’s rationale moralizes publics, trivializes those who would not want to “take their part” of responsibility, and ignores the more vulnerable individuals who lack the economic, political, and cultural resources to engage in collective debate.

Under the spell of RRI, TA risks being reduced to a role of mere provider of *ex-ante* impact assessments. Von Schomberg (2011b) does not make any mystery of the future he envisions for TA: “In the context of European policy making, Technology Assessments (TA), ideally, have to merge with other types of impact assessments, as the success of major public policies increasingly depend on the anticipated impacts or the selected scientific and technological options”. In that ostensibly ideal future, “the quest for positive or right impacts” eludes highly political questions (such as, for instance, whose right impacts? Positive for whom? Serving what interests? Toward what goals?), and forces TA institutions to shift their practices to fit with what RRI tenants take as emerging features of public policy. Such a shift may undermine the added value of TA knowledge, compared to foresight or other strategic intelligence bodies called upon to foresee and legitimate the possible outcomes of planned innovation activities.

This time is critical for TA institutions, struggling for survival in an epoch of scarce public resources. Following the money attached to RRI has a price that TA institutions should carefully, critically and reflexively consider before they pay. Just like the monster created by Frankenstein, RRI is here to stay and is taking a life of its own[[1]](#footnote-1): TA professionals, practitioners and communities will have to experiment, not only in labs but also in the real world of politics, with how they can and ought to cope with it.

From a more critical perspective, Chantal Mouffe has shown that with a blind eye on power politics, reflexive modernization theorists were undermining democratic politics. In “On the Political” (XXX), she contends that Beck’s ‘subpolitics’ and Giddens ‘life politics’ in a ‘post-traditional society’, and the related normative assumptions at the core of reflexive modernization theory, depict a post-political world where conflict, dissensus and the very possibility of an adversarial democratic debate are pushed away or taken as the reminiscence of the ancient or backward world. Against the background of deliberative democracy theories (John Rawls and Jürgen Habermas), which are often seen at the core of TA’s rationales and methodologies (XXX), Mouffe’s political theory of democracy is based on agonistic pluralism. Her theory emphasizes the possibly positive aspects of certain (but not all) forms of political conflict. It accepts a permanent place for such conflict, but seeks to show how people might accept and channel this positively. Because a universal rational consensus is impossible, Mouffe pleas for the erection of agonistic democratic spaces where various hegemonic and counter-hegemonic projects can confront and where politics is treated as constitutive of any social relation in a democratic order.

EXPLAIN THAT FOR AGONISM YOU NEED A BOUNDARY DRAWN BETWEEN US AND THEM AND IT CAN’T BECOME ANTAGONISM (cf BECK). THEN SHOW THAT BLURRING OF BOUNDARIES IS A KEY COMPONENT OF RM.

It’s therefore not surprising that TA institutions (which, I have shown in my PhD, are instances of reflexive modernization) and practitioners have some much trouble in simply acknowledging that TA has politics.

The spell of new policy rationales:

TA is envelopped in new political discourses (knowledge-based economy, responsible innovation)

STI as strategic resources to address « grand challenges »

TA as a boutique luxury, depends on its harmless incorporation into strategic science regimes?

Particular example of TA’s relation to RRI (cf paper in JRI)

Just like for RM, RRI evacuates politics (van Oudheusden 2014)

Within RRI, Innovation pictured as a « good in itself » (Dodier 1993), with implicit social bads. The political plays out in a moral framing.

**Conclusion:**

After RM, TA is embarked in the post-political world of RRI

In RRI, Responsibility is « distributed » and actors rationalized from a distance. (compare with Beck’s approach in Mouffe)

Immoral to oppose to STI or not to participate to public debates about it

TA’s vitality and uniqueness are threatened as mere providers of ex ante impact assessments. A future ahead for TA is probably to be partisan TA. Another one, probably more plausible (and pre-apocalyptic?), is to become an impact assessement tool under the umbrella term of RRI.

1. While others are less certain as to whether RRI will indeed evolve at the policy level into a distinct let alone a lasting form (e.g., Rip, 2016), such a state of affairs does not lessen in my mind potential concerns that RRI may nevertheless exert an undue influence on TA funding, TA practices, or both. [↑](#footnote-ref-1)