

Repertoires of democracy: the case of public transport

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Roel Nahuis and Harro van Lente

University Utrecht

Copernicus Institute of Sustainability and Innovation

Department of Innovation Studies

PO Box 80125, 3508 TC Utrecht, The Netherlands

tel. +31 30 253 7807, e-mail: r.nahuis@geog.uu.nl

Abstract

One of the central messages of science and technology studies is that democratic arrangements may be circumvented or even disrupted by non-democratic mechanisms in techno-political developments. Depoliticization seems to be an inherent trait of ‘successful’ innovation. Democratic qualities, the argument goes, are threatened as artifacts, systems and networks tend to become self-evident and self-justifying. This threat has been addressed within STS for decades from different perspectives and along various theoretical strands. In this paper we distinguish four different repertoires of conceptualizing the relation between technological innovation and democracy: a rationalist, a contingent, an ironic and a reflexive repertoire. They (i) differ in their concepts of ‘technology’, ‘politics’ and ‘democracy’; (ii) they imply different roles for the analyst and (iii) they suggest or urge other political means. We will analyze Langdon Winner’s famous study of the Long Island bridges and the subsequent criticisms it has provoked, in order to assess the strengths and weaknesses of the four repertoires. A key point in our analysis is the paradox between the urge to study innovation symmetrically and the aspiration to avoid moral relativism. We continue by elaborating the reflexive repertoire, which appears to be both consistent and symmetrical, and we respond to the criticism of being normatively relativist. Our arguments are illustrated in a case study of a public transport innovation in the Netherlands: the introduction of stamping machines on trams in Amsterdam around 1970.

Introduction: 'democracy' in STS

Democracy and technology have a deeply ambivalent relationship, and this is one of the central themes of science and technology studies of the last decades. While technology has helped to improve the standards of living and seems to make the world more transparent, democratic arrangements may also be circumvented or even disrupted by non-democratic mechanisms in techno-political developments. The confusing relation between democracy and technology raises both practical and theoretical questions: what constitutes a democratic politics of innovation? And how to assess the democratic quality of technological innovation processes?

One of the icons of the STS tradition is Langdon Winner's case of the Long Island bridges (1980). The story is well-known: the architect of the bridges, Robert Moses, deliberately created a very low design in order to restrict access to Jones' beaches to black minorities, who normally used public transport in those days. Winner claims that technology has inherent capacities to act, which can be strategically directed by technological actors. This and similar cases raise the question to what extent decision making about technological development and its social consequences should be subjected to arrangements for democratic politics.

Joerges has criticized Winner's representation of the bridge building process. Joerges states that the social impact was a concurrence of circumstances, rather than the outcome of deliberate design. First, there were other routes to the beaches. Second, Moses was an 'aesthete and nature politician' rather than a racist. Joerges comes up with auxiliary explanations for the low bridges. He concludes that Moses could hardly have let buses on his parkways, even if he had wanted differently. "The power represented in built and other technical devices is not to be found in *the formal attributes of these things themselves*. Only their *authorization*, their legitimate representation, gives shape to the definitive effects they may have". Joerges, however, does not analyze the political process of authorization. How does authorization come about? Who is authorized to authorize?

Woolgar adds another interpretation. He concludes that the buses, in the end, do run underneath the bridges. His point is that technology is fundamentally ambiguous and neither accounts can be definitive. The question, then, is, why did Winner's account become so popular and often cited. Woolgar claims that contingency does not only operate at the level of engineering, but also at the level of interpretation. Winner constructed a story, an urban legend, whose success depended on its (legitimizing) functions for the subdiscipline of STS, rather than on authorial intention or adequate scientific reference (Woolgar and Cooper, 1999). The status of stories like Winner's "... is the upshot of their usage rather than the result of their internal qualities". In other words, the political stance of Winner is as much a social construction as is the activity of bridge building.

The STS controversy around the 'politics of artifacts' has revealed a number of dilemmas around democracy and technology:

- *With regard to the nature of innovation processes*

The desire to steer technology in socially desired directions assumes that (technological) actors are capable of bringing about particular societal consequences. However, empirical studies time and again stress the

ambiguity of new technology, the contingency of innovation processes and the unpredictability of societal consequences. How to steer technological development if its effects are unpredictable?

- *With regard to symmetry and consistency*

Proposals for innovative institutional arrangements for the democratic regulation of technological innovation better account for the contingent nature of innovation processes. These proposals avoid attribution of fixed meanings to technology. However, they seem to assume a specific meaning of democracy and proper decision making. Is it possible to deliberate on controversial technological issues without arbitrarily fixing the rules of the game and procedures for whom to involve?

- *With regard to the role of the analyst*

The aspiration to study the ambiguity of innovation and democracy symmetrically seems at odds with the aspiration to avoid moral relativism. If democracy has no fixed meaning, is there any position for the analyst to take a firm stance?

Repertoires of democracy

Given these dilemmas and the various positions we found in the STS literature, we distinguish four different repertoires to address the relation between technological innovation and democracy: a 'rationalist', a 'contingent', an 'ironic' and a 'reflexive' repertoire. We see a repertoire as a set of approaches that are complementary and mutually consistent. The repertoire of a musician comprises all the songs she has learned and can perform. Although all songs are different, they express the capacities, style and aesthetic values of the same performer. The songs belong to one another. A repertoire of democracy comprises different approaches to study technology and democracy that nevertheless share the same theoretical assumptions and normative position.

The four repertoires can be positioned by two axes: horizontal and vertical (Fig. 1). The vertical axis distinguishes between rationality and contingency in technological innovation, and refers to the structuring patterns and mechanisms that are assumed to determine the effects of choices and interventions and that make them predictable in principle. The horizontal axis distinguishes a realist and a relativist political stance, which refers to the assumed existence of transcendental principles (key values, deliberative democracy, social contract) that determine/prescribe how proper politics is to be done. Repertoires of democracy imply particular roles for the analyst and suggest or urge particular political means. On a theoretical level they also differ in their concepts of 'technology', 'politics' and 'democracy'. In the following we will compare and contrast the four repertoires.

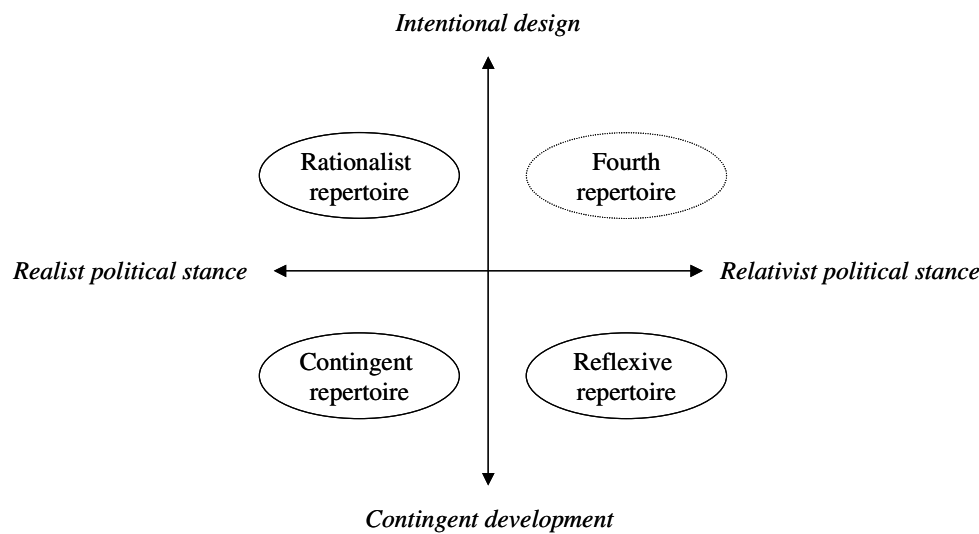


Figure 1: Four repertoires of democracy

The rationalist repertoire

The idea that technological innovations are not innocent or neutral in their social consequences is common to all repertoires. However, the idea that these consequences are strategically directed by technological actors is typical for the rationalist repertoire. A rationalist view on the building in the Long Island bridges case emphasizes the role of architect Robert Moses, who intentionally designed bridges too low for public transport to pass. The bridges become the locus for the exercise of power. The bridges materialize the desires of a racist architect, and continue to do so even after the architect himself has disappeared from the scene.

The rationalist repertoire focuses on the forms of power and authority that are embodied by artifacts. The design and innovation process are judged retrospectively. Typical questions are whether these outcomes are in conformance with the ideals and values of democratic societies. Do artifacts treat citizens equally? How do they affect basic rights? For example, Winner (1980) quotes Mumford when he compares the politics implied in nuclear energy with the politics implied in solar energy. Nuclear energy, they argue, is more compatible with a bureaucratic organization of society due to the requirements it poses to its way of operation, whereas solar energy is more compatible with a democratic organization. In the same tradition Illich (1973) argues that many typically modern technologies turn into a threat of widely accepted values as soon as they come to dominate alternatives. Automobiles create distance, since they render space scarce. Schools create illiteracy, since they monopolize a specific kind of knowledge. In questioning the political qualities of artifacts authors like Winner, Mumford and Illich and other protagonists of the alternative technology movement have put the politics of technology on the research agenda. Their role, typical for the rationalist repertoire, is to assess and evaluate seemingly promising technological path, to explicate the (hidden) design criteria, and to propose alternatives. They try to derive criteria from the domain of human affairs to impose on the domain of technology. Solar energy as an alternative to nuclear energy; vehicles with maximum speeds of 15 mph instead of a whole network of highways and private cars. Social control of technology, technology assessment, redirection of design

activities and public involvement in decision-making are of the most important political means the rationalist repertoire suggests (Boyle, Elliot, and Roy 1977).

In the rationalist repertoire *technology* is understood as the outcome of a intentional and rational design process, that can in principle be reorganized in order to restore the balance of power or to reduce inequality. Politics is conceived of as the exercise of power and authority through their embodiment in material artifacts. Democracy is thought to mean a set of core values that are fundamental to the organization of democratic society and that define the criteria technology should also meet.

criticism

There are two major difficulties with the rationalist repertoire. First, what are the kinds of criteria that alternative technology should meet. Illich (1974) sometimes tends to refer to human nature as the measure for equity. If motorized speeds should not exceed 15 mph, then that is because human power can just reach that speed. Only then an equal distribution of mobility can be guaranteed. But Illich's remedies seem obsolete, at least for industrialized countries. The notion of human nature as the measure for technology is highly problematic, for where does nature end and technology begin (Haraway 1991)? What is more, limiting speeds to the level of a century ago is utopian and undoable. Sclove (1995), in a search for criteria applicable to Western industrial societies, comes up with a 'provisional system of design criteria for democratic technologies' based on a particular conception of democracy. He finds for example that technologies should not establish authoritarian or hierarchical social relations, should not promote ideologically distorted or impoverished beliefs, should be compatible with egalitarian political decentralization and federation, etc. But Sclove fails to solve the problem of moral authority. Who is authorized to design criteria? What are the criteria for criteria? What if two criteria contradict in particular circumstances? Tackling the question of democratizing technology with a system of design criteria tends to grant authority to ethical experts, who are specialized in moral traditions or attitude research. Although Sclove admits that these design criteria are provisional and contestable, to counter the moral arguments he uses requires considerable philosophical skills and understanding of different concepts of democracy. Even Winner (1986) states firmly that the moral questions surrounding technology must exclude expertise. Winner devoted his book *The whale and the reactor* to a search for limits to technology. But exploring the possibilities to base criteria on nature, risks, 'appropriate technology' and decentralization, he concludes that "the inquiry we need can only be a shared enterprise, a project of redemption that can and ought to include everyone" (p. 163).

Yet, there is another objective to the rationalist repertoire. What if everyone indeed engages in a shared enterprise and provide answers to the question: 'how are we to live together?' Does that also provide directions for innovation? There is an assumption in the rationalist repertoire that technology can be designed in order to fulfill socially desirable ends. Social consequences should be assessed in early stages of development as to put decision-making under social control of democratic institutions (Boyle, Elliot, and Roy 1977). However, many empirical studies in the past decades emphasize the contingency and unpredictability of technological development. One of the reasons why technology assessment failed to meet its expectations was that many

predictions were severely contested or just did not come true (Smits and Leyten 1991). Uncertainty is inherent in any societal future development and even if one could agree about desirable directions, it remains questionable whether that would also be achievable.

The contingent repertoire

Whereas the rationalist repertoire assumes technology to be deliberately designed for predefined ends, the contingent repertoire takes uncertainty as an inherent element of technological development. The question of democracy is then: how to interfere (democratically) at the right places and the right moments. Evaluation and intervention should take place along the way. Instead of criteria for design, the focus shifts towards procedures for involvement. Not the outcomes, but the process should be aligned with democratic principles. In the contingent repertoire democracy is defined in terms of participation, deliberation and consensus seeking. This position can be found among protagonists of democratization of technology like Bijker (1996a, 1996b), Sclove (1995) and Hamlett (2003). From social construction to politics only is a small step, they argue. Constructivist studies have shown how technology develops in complex interactive processes, in which a heterogeneity of actors and aspects play a role. Bijker (1996b) argues that politicization already happens in for example constructivist studies: interests become apparent, normative assumptions are clarified and relations of power show up. Constructivists start from the assumption that artifacts are flexibly interpretable. Different social groups attach different meanings to artifacts under development and one cannot predict on beforehand which meanings come to dominate others. Closure only occurs in a 'micropolitics' of heterogeneous action and coalition formation. Goals and meanings are not stabilized on beforehand, but get shaped through interactions and learning processes. Technology developments is therefore another kind of politics, a particular kind that is conditioned by already stabilized frames of meaning and the strategic actions of other social groups and coalitions. But politicization is not democratization until equality among participants is acknowledged. Democracy urges for additional means. When Bijker pleads for democratization of the technological culture, he argues that there is no distinction between experts and lay people from a social constructivist point of view. Everybody is expert in some aspects and lay in others. When relevant social groups (including citizens, organizations, architects and engineers) participate in committees, advice groups and vote sessions (to which they ought to have opportunities), then this should principally be on an equal base and the outcomes are the result of shared responsibility. Democracy, in this repertoire, is understood as a deliberative practice with strong participation. By sharing preferences and reasons among participants, mutually listening and proposing solutions, it is assumed that partial and private interests aggregate into solutions that are acceptable to everyone (Sclove 1995, Zimmerman 1995, Bijker 1996a, Hamlett 2003). As Hamlett states: "The expectation is that the participants will find their ideas, preconceptions, and eventually their preferences changed and molded by the experience, rather than engaging only in various bargaining or advantage-seeking tactics to secure unchanged goals" (Hamlett 2003, p.122).

Another example of the contingent repertoire is Constructive Technology Assessment (CTA). This approach seeks to bridge the two tracks of promotional activities for technology development on the one hand, and control and regulation on the other (Rip, Misa, and Schot 1995). By broadening the aspects, as well as the actors, CTA strives after strategies to manage technological innovation while including both positive and negative impacts.

Impacts, however, are not conceived of in terms of consequences after the fact. Rather, CTA starts from the assumption of co-production of technology and impacts. “Realistic strategies for managing technology in society, we maintain, must consider impacts already during the development of technology, involve users and other impacted communities and contain an element of societal learning in how to co-produce technology and its impacts” (Rip, Misa, and Schot 1995, p. 5). The challenge for CTA researchers is to learn about the mechanisms of co-production and use these insights to improve innovation processes. Chances for better technology are enhanced through the organization of activities – like dialogue workshops, consensus conferences, scenario workshops or citizen reports – in which societal questions become articulated and coupled to technology development and actors are going to feel a shared responsibility for the sometimes barely predictable outcomes (Schot 1996). Constructive technology assessment bets on societal learning without fixing the end terms for the learning process, because the formulation of lessons is part of the process. As in consensus conferences or citizen juries, technological outcomes don’t matter as long as all interests are represented, discussions actually take place and lessons are learnt. Therefore the only remaining criteria for success are commonality and consensus and the lessons to be learned can only lead to improved procedures for involvement.

criticism

Harbers (1996) makes two objections against the procedural fix. First, procedures are meant to facilitate deliberation about stakes and the meaning of ‘public interest’. Conflicts on a practical level, however, are easily overlooked. The proliferation of conflicting practices and competing networks can also be perceived as a (displaced) form of politics. On this level politics is more often exercised as practical action than as deliberation about possible scenario’s. When for example the Danish grass root wind energy entrepreneurs appeared to be more successful than the competing governmental program, that was thanks to the political network they succeeded to build not only through deliberation, but through lobbying, negotiation and building wind turbines as well. One could certainly trace some democratic quality in this bottom-up development.

Second, procedures aim at broadening participation of impacted actors. This, however, denies to citizens the right to hold aloof. Technological issues are often very complicated and require a certain level of background knowledge. In some cases, Harbers argues, it might be more appropriate to let elected representatives discuss and decide. That does not necessarily favor representative democracy over direct democracy. The point is that not everybody always wants or needs to participate in decision making. In terms of competing technologies, citizens may sometimes want to vote with their feet. The massive Shell boycott in the Brent Spar controversy shows that there are other political means to participate in public affairs (Harbers 1998). Besides, if it is the same people who participate each time, is that still democratic? (Hartman 2001)

A third objection from De Wilde (1997) relates to putative neutrality. People like Sclove and Bijker suggest that the weaknesses of indirect democracy can be remedied with additional forms of direct democracy. Vested interests and traditional parties play a minor role therein. With a more neutral distribution of power and a voice for minorities, they suggest that decision making will be more rational. This, however, places a heavy burden on the shoulders of organizers. The need to cancel out bias for rational decision making requires careful and

balanced set-up, coordination and provision of background materials. Although perhaps not always possible, a neutral setting should be strived after. But how can such an ambition ever be realized? On the one hand protagonists of direct democracy build their pleas on social constructivist theories of technological innovation, on the other hand they assume groups of participating citizens to act autonomously. On the one hand they support the view that technology and society co-evolve, on the other hand they assume rational and unbiased deliberation to be possible. Unlike the artifacts at stake, democracy itself is portrayed as a moral machine that *can* be designed intentionally. What's more, such portrayal creates another unbalance of power and authority. "The power to decide who is fit to enter a debate, who is 'autonomous' enough not to spoil the rules of a 'strong' democracy, will be in the hands of social engineers, such as the moderators and organizers of the Dutch and Danish consensus conferences" (De Wilde 1997, p.45).

The last and most fundamental criticism concerns the asymmetry between its conceptions of technology and democracy (Harbers 1996, De Wilde 1997). Technological artifacts are said to be flexibly interpretable. They don't have any fixed meaning until closure of controversy has been achieved. Why then would democracy have a fixed meaning? Why would democratic politics for example aim at consensus? In terms of participation conflicts are conceived of as obstacles to overcome by deliberating actors. Actors should not take a firm stance and stick to that. Another interpretation of democracy, however, would conceive of political conflicts as a divided society staged at an aggregated level. Democratic politics is rather a mechanism to represent and regulate diversity in legitimate ways, without need for substantial consensus (Lefort 1992, De Wilde 1997). From that perspective, democracy is not about solving, but about the public proliferation of conflicts (Koenis 2002). The other way around, why should deliberative and participatory practices like consensus conferences be interpreted as democracy? De Wilde gives three other interpretations that might be equally valid from the same constructivist point of view: such practices are a way of putting agencies for technology assessment back on the map, they provide an opportunity to experiment with a new technique for speeding up decisions, they are efforts to create new coherence in politics. There is no a priori reason why participatory democracy is stronger than e.g. the proliferation of practices or voting with your feet. There is no reason why consensus is more worthwhile than public contestation, whether on the ideal level of meanings or on the practical level of action.

The ironic repertoire

The third repertoire assumes rationality and predictability in decision-making about technology, but lacks a normative principle for critical assessment and recommendations. The politics of innovation is thought to be rational though amoral. Decisions deliberately achieved along the fairest imaginable procedures remain ambiguous in terms of democratic quality. How can those two suppositions be aligned?

Some versions of actor network theory provide important examples of the ironic repertoire. Latour (1991a, 1991b) and Akrich (1995) assume a gradual distinction between the local and the global level. Within their context, decisions on the local level (e.g. design specifications) are intentional and rational¹; they can be understood if one takes into account the relations with other actors, the available resources, the skills of

engineers, and other local circumstances. At a global level systems acquire their characteristics through an accumulation of local decisions. Some decisions taken earlier will have to be taken into account, while others will be neglected. Networks thus emerge as the accumulation of choices, decisions, actions. According to Latour and Akrich the global can only be understood from the networks created by local decisions. Henceforth, global structures (electricity networks, sewerage systems, institutions, democracy) should be conceived as networks that may reach far in their complexity and geographical range, but remain local at their nodes. Macro structures are built up by micro decisions; “the Leviathan is a skein of networks” (Latour 1991b, p. 169).

Whereas one definition of irony applies to a statement, another definition applies to a situation or event. A strange or unexpected situation is ironic when all circumstances seemed to favor the very opposite to occur. For example: *the tragic irony is that the drug was supposed to save lives*. Similarly, the irony of the Long Island bridges is that they discriminate rich people in luxury buses and camper vans as much as poor people in public transport buses. This kind of irony, as Latour often illuminates, is a result of the fundamental impossibility to design and predict the uses and effects of technology. Even very advanced scripts that are deliberately designed to enroll and control users may in effect turn out to do the opposite. This irony points to the contingencies in the face of rationality.

Latour’s translation theory proposes a set of concepts and methods to capture the dynamics of network formation. Networks are defined by the elements that contribute to the accomplishment of an actor’s action program. Innovative success of the network depends on its strength, that is: the number of allied actors that share the same action program. One major mechanism of network formation is translation: the activity of actors to translate their own interests, purposes, problem definitions into those of others, attempting to enroll them into their network and to be able to speak on behalf of them. Domination is a matter of enlarging and unifying networks. Latour’s view on the politics of innovations is explicitly Machiavellian (Latour 1987a, b). He describes examples of the various strategies and tactics of successful innovators as well as their conditions and limitations, just like Machiavelli analyzed the successful paths to power. These strategies aim at enrolling others, while keeping control over their behaviors (Latour 1987b). For example, an innovator can adjust his own action program to those of others; he can try to mobilize others by arguing that realization of their action programs is impossible and to follow his one is the closest they can get; he can argue that his action program offers a detour, but in the end a short cut to realization of their owns.

One more strategy to enroll actors and control their behavior is to delegate the relations to technological artifacts. In *Technology is society made durable* Latour (1991a) argues that enrollment always goes together with substitution. Technological artifacts sometimes are more durable substitutes for work done by (unreliable) human actors. If a hotel manager adds a metal weight to the rooms’ keys, he is more likely to have them returned than when he has to ask his guests for this favor each time anew. The metal weight substitutes the multitude of requests, while enrolling more guests in the action program of the manager. In another example, according to Latour (Latour 1987a) the perfect counterpart of Winner’s Long Island bridges case, the political dimension of the delegation is more obvious. At the end of the nineteenth century the municipal authorities of Paris wanted to

¹ This kind of rationality should not be confused with the rationalizations that innovators give afterwards for the choices they

make sure that the exploitation of the underground to be built would remain in the hands of the municipality. After a long struggle, the municipality decided to build the underground with rails too small for train wagons. In this way they reassured themselves that private companies would not appropriate the underground, even when a right wing coalition would allow them in the future. Instead of contractual arrangements, more durable arrangements were made out of stones, earth and concrete. This feature of technology is captured with the notion of 'scripts' (Akrich 1992). The action program inscribed in the material dimension of technological artifacts and infrastructures plays an important role in its usage: it allows, forbids, prescribes and suggests ways of use. "Thus, like a film script, technical objects define a framework of action together with the actors and the space in which they are supposed to act" (p. 208).

criticism

An important criticism of the fourth repertoire deals with its voluntarism and its winner's perspective. Radder (1992) argues that Latour's defends a winner's point of view. Actor network theory attempts to explain how hegemonic structures emerge, it emphasizes the strategic actions that successful innovators employ in order to enroll more actors in their network. Not the inherent characteristics of technological innovations or scientific discoveries are decisive, but the strength of their actor networks. This paves the way for the Machiavelli-figures that are so prominent in many of Latour's empirical studies: Pasteur, Bell, the Parisian municipal authorities and the hotel manager who understand the principles of network building. As a consequence, the macro structures (like telephone networks or democratic government) that arise out of growing networks also reflect the Winner's point of view. These, after all, are ultimately caused by the local actions of successful network builders. But if Latour subsequently argues that even totalitarianism is only accomplished through the construction of a network of statistics and calculations, bureaus and investigations, he also has to remain agnostic in terms of legitimacy, because legitimacy is the consequence of these activities instead of their (ideological) foundation. Latour has to admit that Stalin's scientists who created truth through intimidation and isolation of dissidents were both successful and right, too (Amsterdamska 1990).

There are two ways out of the far-reaching implication that anything goes. The first is irony, the second antagonism. The ironic interpretation of the winner's perspective would involve that we shouldn't take Latour serious up to the point of approving arbitrary domination. Irony gives the opportunity to criticize a perspective, without leaving it and renders sympathy for the Machiavelli-figures without automatically approving the network they succeed to build. Irony points to decisions that could have been made differently and deprives legitimacy of its self-evidence. It ultimately inspires counteraction. The problem with irony, however, is that it doesn't provide any alternative or means for counteraction; it just traces the loci where domination emerges. Here the fundamental asymmetry of the fourth repertoire shows up. On the one hand problems, solutions and action programs are defined and valued by innovators, who – through translation and delegation – attempt to enroll and control users. On the other hand, drawing conclusions from an ironic text is thought to be up to its readers, as irony itself only deconstructs 'universal' principles, values and structures, without providing alternative ones. The irony of irony is its presumed innocence (Amsterdamska 1990), it loves too much what it hates.

made.

The second way out, which we think is closer to most of Latour's work, is to assume antagonism in any action. In Latour's translation approach, innovation is conceived of as realization of an action program. But other actors have their own action programs, too, that might be at odds with the innovator's one. From the innovator's point of view, these antagonistic action programs can be defined as anti-programs. The politics of innovation henceforth comprise the different strategies and tactics with which an innovator deals with strategies and tactics of his antagonists. If antagonists can employ the same means as the protagonists, than action programs will have to be negotiated and concessions have to be made. The scripts of artifacts, therefore, will not determine the behavior of users, since users will also appropriate artifacts for their own ends (Akrich 1992).

From this antagonistic stance Latour (1987a) finally addresses the issue of democracy. Democracy is not a plea for another technology as in the rationalist repertoire. That would rather hide than control the strategies of innovators and make technology development seem autonomous. Neither is democracy a plea for public participation, because that would merely provide moralist exhortations at the moment when important decisions already have been made. Instead democratic politics of innovation requires opponents to encounter the strategies of innovators with exactly the same means. The democratic challenge is to intervene from the inside, with anti-programs.

The reflexive repertoire

What is democratic politics? The reflexive repertoire assumes interpretive flexibility not only with regard to technological artifacts, but also with regard to the meaning and form of proper politics. There is no 'real' democracy. Democratic politics can take multiple forms, which have to be legitimized each time anew. According to Lefort (1992) one should not seek democracy in the way decision-making is organized, but rather in the way a society acknowledges the frailties of its political institutions and finds ways to cope with the indeterminateness of legitimacy. Politics cannot be a neutral or universal technique for the regulation of contest without excluding the contestation of this technique itself from politics. Alternatively, legitimization is thought to be part of each political process.² Hence, the construction of 'democratic legitimacy' should be investigated with the same empirical means as the politics of technological innovation: case studies and ethnographic research. The challenge is to reflect upon the conditions and circumstances by which a political process both leads to particular outcomes *and* is claimed to be democratic. For example, Woolgar (1999) investigates the circumstances that enable Winner (1980) to write a successful manifesto about the politics of artifacts. Winner's claim of moral authority, he states, is not based on decisive argumentation, but is the upshot of an attractive rhetorical style, a well-chosen exemplar and a receptive public. The meaning of the bridges and the judgment in terms of democratic deficiency results from an alternating process in which Winner's text configures its readers and its readers interpret the text.³

² Compare with Latour's notion of 'relative relativism' (note 6).

³ According to Woolgar the Long Island bridges are interpretively flexible and there is no a priori reason why Winner's account would be more reliable than others. Reliability depends on how a text is received like social consequences depend on how bridges are used. Gill's criticism of this view is that Woolgar displaces technological determinism for interpretational determinism (Gill 1996). In a response, Woolgar and Grint (1996) reject this accusation, because each interpretation is already a configured interpretation. The social construction of a particular technology, he argues, goes hand in hand with the creation of a micro moral order that prescribes what kinds of use are appropriate, which interpretations are accurate, which judgments make sense. Similarly, the construction of a text goes together with negotiations with peers in a scientific

Gomart and Hajer (2003) have outlined an approach to study the multiplicity of political forms. They start from the observation that different political forms emerge next to or across traditional territorially-based representative forms of government, that henceforth challenge established ways of 'doing politics'. Single issue movements like Greenpeace or Amnesty International criticize official state policies, activists in Genoa and Seattle protest against the exclusiveness of elected leaders to decide about key problems in the world, consumers boycotted Shell in the Brent Sparr affair. Councils of elected representatives are no longer taken to be the exclusive authority in issues of collective interest. Gomart and Hajer refer to Beck's thesis of 'displaced politics'. Politics can take multiple forms and their legitimization is part of the issue.

One response to coordinate displaced politics with regard to controversial technology is to organize broader participation in new forms of deliberative democracy. As has been argued above, however, the implied image of democracy as a designable moral machine in which 'autonomous individuals' debate and decide rationally is loaded with difficulties. It does address the question *who* participate and act, but takes the capacities to act for granted. We have seen that this assumption is at odds with the notion of co-evolution of technology and society. The question 'who acts' is not meaningless though; it is just that this 'who' might be constructed as well. Rather than starting from scratch, the very competences and capacities of participants are being constructed in a political process that is already structured in particular ways. Along these lines Gomart and Hajer argue that bias is inevitable in any political setting. The way political settings are organized and coordinated, information is provided and rules for deciding are settled define what it is to participate. Hence, instead of asking 'who participates' they address the reflexive question: *what* enables participants to act the way they do? How do they acquire the competences and capacities to contest, reason, deliberate, choose? Those are empirical questions instead of evaluative ones. The reflexive repertoire thus urges analysts to delve into the empirical complexity of the politics of innovation, while refraining from a priori meanings of technology, politics and democracy. The assumption of interpretive flexibility challenges analysts to investigate how the meanings of artifacts, the political capacities of participants and the democratic quality of the process are co-constructed.

criticism

Critics of the reflexive repertoire have pointed to the normative implications of constructivist approaches. In the rationalist repertoire politics concern the social consequences of technological choices. In the contingent repertoire politics refers to power differences and lack of citizen participation in sites for decision-making. According to Winner (1993) the reflexive repertoire disregards social consequences of technological choice and has a blind spot for the silent voices of social groups that are nevertheless affected. Social consequences, firstly, are left out of view because social constructivism is more interested in the origins of technological innovation than in its impact. This lack of interest, Winner argues, springs from the shift from science to technology that social constructivism has made, without adapting its research questions: the sociology of science primarily dealt with the *origins* of knowledge about natural phenomena. A blind spot for silent voices is implicated in the constructivist snowball method of following the actors (Radder 1992, Winner 1993). A social group or an actor

community about the kinds of arguments that count, the relevance of metaphors, the preferred way of reading, the proper political commitment of analysts, etc.

is designated relevant in the social construction of technology when it is designated relevant by the other groups or actors, that is: when statements or interests are referred to or when actions are followed by reactions. As a consequence, those who are systematically excluded from decision-making will never show up in constructivist empirical studies.

A third related critique emphasizes the absence in of structural patterns in technological change beyond immediate needs, interests, problems and solutions of specific actors. Philosophers like Marx or Heidegger have pointed to the structural divides of social classes or the attitude of mastery towards nature that underlie social interactions and technological choices (Winner 1993). Radical constructivist argue that structural patterns (like norms for good science) are mere rationalizations for contingent findings. Less radical constructivist argue that relative stable structures may exist, but that they are rather the upshot of contingent practices than their foundations. Instead of explaining a historical process with reference to structures, the reflexive challenge is then to explain structures from its contingent history. For example, the political institutions that we take to be democratic today (but still under pressure) were once contested political innovations and historically constructed as techniques of representation (Gomart and Hajer 2003).

But this leads to a fourth criticism of the reflexive repertoire. Too much emphasis on contingency causes conservatism and political impotence (Radder 1992, Winner 1993). If power practices are not patterned, then there is no urge for structural reform. “For instance, if the development of nuclear weapons is completely unpatterned, what is the point of trying to get at least some democratic grip on it (for instance, by attempting to reduce the power of bureaucratic politics)? Or, to give another example, if the gender-blindness of many sociologists of scientific knowledge is purely a local phenomenon, why criticize and try to change it? Why not just wait until some other idiosyncratic contingency produces a more favourable science and sociology of science tomorrow?” (Radder 1992, p.154). The same holds true for the meaning of ‘politics’. If there are no stable criteria for what politics means, if for example building a bridge can also be called politics, then what about a heat-wave (causing dehydration and death of many elderly and a French minister to resign)? (De Vries forthcoming). The notion acquires a tremendous scope while losing its specificity. Democratization is already an ambiguous concept. Now the object of democratization also seems to diffuse.

A reflexive approach to the politics of innovation

We discussed four repertoires of democracy that have been elaborated in almost three decades of science and technology studies. Table 1 summarizes the different features of the four repertoires. The old rationalist repertoire was too simple, because it assumed undesirable consequences of technological choice to be easily remedied by making better choices. The contingent repertoire remained more modest with regard to the possibility of steering technology, but naively embraced deliberative democracy as a means for better practice. The reflexive repertoire proposes an agnostic and empirical approach to technology and democracy, but fails to address a number of normatively relevant issues. The ironic repertoire provides concepts for understanding innovation as a political process, but does not leave the winner’s perspective unless it shifts to the reflexive repertoire. The contingent repertoire provides a remedy for the first weakness of the rationalist repertoire: the neglect of contingency in technological innovation. The ironic repertoire provides a remedy for its second

weakness: moralism due to the assumption of unambiguous democratic principles. The reflexive repertoire can be understood as a response to the criticisms on the contingent repertoire, as well as an adaptation of the ironic repertoire.

	Rationalist repertoire	Contingent repertoire	Ironic repertoire	Reflexive repertoire
<i>Assumptions about technology development</i>	Rational choice Realizing means for predefined ends Unforeseen consequences	Interpretive flexibility Stability after negotiation between interested social groups Co-evolution of technology and impact	Realization of action programs Enrollment of actors in network through translation and delegation Encountering antiprograms	Interpretive flexibility Relative stability after alternation of configuration and interpretation
<i>Meaning of politics of innovation</i>	Social consequences of technological choice/ impact	Power differences disturbing equal positions	Co-construction of meaning of technology and (democratic) legitimacy	Co-construction of meaning of technology and (democratic) legitimacy
<i>Meaning of democracy</i>	Set of core values	Participation, equality and deliberation	'A skein of networks'	Ambiguous Contingent upon interpretation and configuration
<i>Role of the analyst</i>	Critical technology assessment	Learning about co-evolution Using lessons for societal steering	Empirical research Deconstruction of domination	Empirical research Interrogating practices of co-construction and meaning attribution
<i>Implications for democratization</i>	Alternative technology meeting democratic values	Inventing new forms for direct democracy and rational choice	Treating domination with irony Encountering action programs (refl. variant)	Reflection on conditions and circumstances of co-construction and meaning attribution
<i>Main criticisms</i>	Neglect of contingency in technological innovation Moralism and ethical elitism	Neglect of non-deliberative politics Unproblematized plea for participation Neutrality is a myth Fixed meaning of democracy	Sticks with winner's perspective	Disregard of technological impact and silent voices Disregard of underlying structures Political impotence

The contingent repertoire is criticized for its a priori definition of democracy as a moral machine for participation, deliberation and rational choice, which is at odds with the contingent nature of designing complex machines per se. Deliberative democracy may be one definition, but its legitimacy is not self-evident or based on transcendent principles. There are multiple possible forms of democratic politics and the legitimacy of any actual political form has to be negotiated as much as the issue being politicized. The reflexive repertoire, therefore, focuses attention to the relative meaning of democracy and urges for an empirical approach of democracy.

The reflexive repertoire – and here it draws on the ironic repertoire – stresses the importance of empirical research of local practices. It sees democracy as a skein of networks that are local at their nodes. At the nodes nothing unusual goes on: people write papers and documents, discuss new ideas, fill in forms, make phone calls with potential collaborators. But never mind the banality of the work, it can be characterized as politics of innovation if it aims at the strengthening of networks and the spread of an action program. Ultimately strong networks may get global proportions (e.g. internet or democratic government). But before concluding that the best network builders will rule the world according to their imposed principles of legitimacy, it should be emphasized that networks are fought for before they stabilize. Network builders have to resist antiprograms, translate and negotiate action programs continually. The consequences of any action are contingent upon reactions of others. The reflexive repertoire focuses on antagonism in the politics of innovation, making technological innovation inherently unpredictable.

We conclude that the reflexive repertoire alone is both empirically adequate and internally consistent. It acknowledges the empirically evident contingency in technological innovation and deduces from it a perspective on democracy that accommodates similar features. Yet, it faces some criticism, as we indicated above. Gomart and Hajer (2003) have addressed the issue of democratic politics from the reflexive repertoire, whereby they draw in part on the variant derived from the ironic repertoire. It has often been argued that evaluation of a case in normative terms always requires an external, transcendental point of reference (Winner 1993). In contrast, Gomart and Hajer – by extrapolating a reflexive approach to “good experiments” to the study of politics – attempt to turn transcendences into empirical questions without ending up in a normative deadlock. As an illustration they follow a controversial planning process of an agricultural region potentially valuable for several competing purposes. In the following we will assess the extent to which they succeed in tackling the reflexive repertoire’s criticisms. We take the latter objective as starting point. The criticism will be addressed in the following order:

1. Political impotence
2. Disregard of silent voices
3. Disregard of underlying structures

Political impotence

Critics of the reflexive repertoire have argued that the lack of an evaluative stance leads to political indifference and impotence (Winner 1993). How to judge technical accomplishments without taking a moral stance? How to evaluate the quality of a political process without transcendent criteria of ‘good politics’? Gomart and Hajer address this issue via a review of the discussion about ‘good experiments’ in the field of psychological experiments on rat sexuality in the 20th century. Central in this discussion was the notion of bias. A series of experiments made clear how much the set-up of the experiment biased its outcomes. For example, in one of the early experiments a male rat took a sexually ‘active’ role after a female rat was dropped in his cage. Later experiments with larger cages showed a different picture, in which the female rat ‘actively’ started giving signals of being prepared to mate. The subsequent debates between conservative and feminist ethologist focused on the cultural expectations of the experimenters that were said to be materialized in the setting of the experiment and

bias the results. The early experiments did not give the females a chance. The latter experiments were said to be more pure and neutral and henceforth ‘better’, because they did not interfere with the phenomenon under study.

However, a constructivist turn, Gomart and Hajer continue, provides a slightly different interpretation: “the biases materialized in the cage do not just deform the phenomenon, they are crucial in fabricating the phenomenon’s autonomy” (p. 39). In other words, bias is inevitable and also the larger cages interfered with the phenomenon, although differently. The behavior of rats will always be relative to the constraints and facilities of the experimental situation. But unlike in the early experiment the larger cages gave the female rats a chance to behave unexpectedly and to surprise the experimenter. They surprised because the setting gave the rats the opportunity to acquire new and unexpected competences and properties. Bad experiments force objects into the experimenter’s biases. Good experiments are also biased – they treat their objects like one suggests ‘they are’ – but thereby enable the studied object to acquire unprecedented relational properties. “In the case of the female rat, *to treat her like* an active sexual agent transforms in an unprecedented and interesting way relations between feminist ethologists, their rats, their older ‘biased’ colleagues, and because of the parallels constantly drawn in ethological debates between rats and humans, this proposition tentatively transforms relations between male and female humans” (p. 41).

The point of this excursion into the philosophy of scientific experiments is that one does not need transcendental criteria to establish the quality of experiments, if one emphasizes the positive role of bias. Bias can be positively employed in order to achieve surprising results. Here, surprise is not a transcendent criterion for good experiments, but it draws attention to immanent criteria. Experiments propose their own definition of the ‘good’ relative to expectation and bias. Good experiments upset business as usual. By adhering to the minority view of a feminist ethologist the female rat challenges the dominant view, it haunts the thoughts of conservative ethologists and urges them to reflect upon the associations and implications of the dominant view. Just by behaving in an unexpected way the rat defines the quality of the experiment.

Gomart and Hajer show what this reflexive notion of ‘good’ means when extrapolated to the study of politics. First of all it means to acknowledge that bias – “some issues are organized into politics, while others are organized out” (p. 42) – is a key concept for understanding politics. Bias draws attention to how a setting politicizes the problem at issue, engages a certain audience and constructs the very meaning of participation. Second, the notion of ‘good politics’ draws attention to the extent to which a political setting enables participants to turn the course of the process in unexpected and interesting directions. For example, in their case study about the Hoeksche Waard, Gomart and Hajer describe five different political settings aiming at a regional plan for the multi-purpose region. In one of these settings a legally required update of the Regional Plan (*Streekplan*) was to be developed. Gomart and Hajer delineate this setting as a politico-administrative scene coordinated by experts from the province (the governmental level legally responsible for bringing out regional plans). But as only governmental agencies and key business players were included, while all other parties were excluded, the process ended up in a political deadlock. It did not give the wider public a chance to adhere or contribute, until citizens had the formal opportunity to appeal against the plan. At that moment 6,000 letters of protest were handed in, which resulted in an unproductive disapproval of the Plan.

Far more interesting were the achievements in another setting. AIR Southbound, organized by a cultural foundation to “confront and stimulate policy makers, politicians and the world of urban renewal in Rotterdam”, attempted to base regional planning on the existing qualities and meanings of the Hoeksche Waard. Unlike the Regional Plan drafting, AIR invited artists, designers, and anthropologists to publish telling illustrations of their views on the area in a magazine, it had politicians looking down from a mobile crane and others traveling over with a hot air balloon. This setting appeared to enable an effective escape from the ‘expert-dominated conceptual way of doing planning’. The manifestation was set up in four phases: an exploration, a conference, a presentation and an exhibition. Particularly in the presentation phase, designers and landscape architects appeared center stage rather than the provincial administrators and politicians who were now part of the audience to be interested to the presentations. The setting facilitated interesting achievements. Presentation drew in one another and some succeeded to motivate a wide variety of people to participate in the debate. A deliberative break with ‘policy-talk’ provided the opportunity to work across the discourses and practices of research, narrative, art, design and planning as illustrated by the wide employment of visuals like slides, video, photos, and maps. The visions presented at AIR Southbound gave a new turn to the discussions about the future of Hoeksche Waard, a turn that was not imposed on the public but emerged from the interaction going on in the audience created by the manifestation itself.

To conclude, there is no need to go beyond the studied process to evaluate its quality. Interesting and thought-provoking achievements point to the specific qualities of a particular process. Interesting in this sense is not defined by some transcendent principle, but relates to the expectations and biases that are actually inscribed in political settings. Even the content of democracy should not be defined a priori. According to Gomart and Hajer democracy only acquires content and meaning through the succession of political forms. “Democracy, [they] read in Dewey, is precisely the constant flux and experimentation with different political forms that are spurred by the contestation existing ones elicit and which construct different collectives and articulations among them. [...] Democracy, the good politics we are in the and preoccupied with, is not the guaranteeing of process through the fixing of certain institutions. Rather it is this openness, this preparation for unexpected forms and their surprising positive effects” (p.56-67)

Disregard of silent voices

The second criticism of the reflexive repertoire concerns its methodological disregard of silent voices that are nevertheless affected by technological choices. Due to the snowball method of following the actors they are easily overlooked. Excluded social groups are hardly addressed in reflexive studies about technological innovation. Although Gomart and Hajer do not discuss a case about technological innovation, the criticism may also apply to their reflexive research into spatial planning. Gomart and Hajer explicitly address the issue when they discuss the AIR Southbound setting. In the first phase of the manifestation artists, writers and anthropologists were invited to ‘capture’ the concrete qualities of the Hoeksche Waard and publish these captures in a magazine called ‘The Discovery of the Hoeksche Waard’. Yet, this title evidently implies an urban audience. For inhabitants of the area ‘discovery’ had a very derogatory meaning: “We are not some rare tribe from the rainforest” (p. 50). To them AIR seemed to be another imperial planning strategy which the really

affected people had little opportunity to join. The foundation even failed to provide enough tickets for local people.

In response, five inhabitants from the Hoeksche Waard, who had attended the manifestation, brought the exhibition (the final result of AIR Southbound) to the area in an attempt to revitalize the debate among inhabitants. They succeeded to interest more than 1000 local people to the 'AIR PLUS' exhibition and debates. What is more, the debates resulted in a relatively broadly shared vision on the future of the area laid down in Het Hoeksche Waard Manifest. Earlier plans of governmental bodies envisioned the future of the area in relation to 'the general socio-economic developments in Northwest-Europe'. AIR PLUS, however, like AIR Southbound, took the existing qualities of the area as a starting point. But unlike AIR Southbound, it aimed at articulation of the area's values as experienced by the local inhabitants themselves. As a result, the Manifest put a lot more emphasis on neglected values like 'greenness' and 'emptiness'.

Local inhabitants were deliberately excluded from the Regional Plan drafting. They were unintentionally excluded from AIR Southbound. The initiative of AIR PLUS, however, actively attempted to articulate the values, desires, ideas and visions of the local people. The setting quite unexpectedly allowed for the emergence of a group of 'Hoekschewaarders' who, as individuals, had felt rather powerless and resigned. Moreover, with their Manifest they defined themselves as an interest group not easily to be overlooked in later policy-making. To conclude, a reflexive approach does not necessarily imply neglecting the interests of silent voices. In this case, affected people indeed have had a chance to raise their voice. Gomart and Hajer's focus on bias in political settings proves to aptly capture them, once they are at least addressed (no matter whether these voices are treated like relevant or irrelevant).⁴ The notion of 'good politics', moreover, implies a special appreciation for unexpected voices to be raised.

Disregard of underlying structures

The third criticism of the reflexive repertoire concerns the refusal to accept macro-sociological structures as explanation for occurrences on a micro level. Rather, structures are the consequence of local action and contingencies. This opposition is not merely a chicken and egg problem. Winner (1993), Radder (1992) and De Vries (forthcoming) have pointed to the normative consequences of accepting the constructivist-relativist point of view. Without patterns and structures anything goes. Normative judgments lose their frame of reference, structural change is impossible and theoretical concepts become slippery. The question about structures and patterns can be posed at three levels: Are there

- i) structures in the exercise of power
- ii) structures in the politicization of issues, and

⁴ However, voices may not be addressed at all and just remain silent all along. These voices will never be taken into account unless one systematically investigates interests of all possible relevant and irrelevant groups and actors. Perhaps doing so should be conceived as an intervention in the studied process similar to the intervention of the AIR PLUS organizers. The observer/intervener co-constructs the phenomenon under investigation (remember Woolgar (1999) arguing that Winner co-constructs the political meaning of the Long Island bridges). Reflexivity then of course urges to acknowledge and argue for one's biases and assumptions about actors with presumed interests or shared values who are not capable to fight for their right.

To start with the latter (iii), Gomart and Hajer have argued that democracy is at odds with structurally fixing the criteria for good political settings, as it is precisely the constant flux of political forms that makes surprising effects possible. With regard to structural patterns of power (i) Gomart and Hajer discuss the politico-administrative body of the province of Zuid-Holland. Critics argue that there is no point in democratization if the structural features of power (e.g. the uncommunicativeness of bureaucratic decision-making) are not challenged (Radder 1992). However, is the bureaucrats' power in regional planning to be challenged? Or is rather their exercise of power in concrete issues to be reflected upon, in this case a controversial plan for the Hoeksche Waard. A constructivist point of view draws attention to the co-construction of authority for planning in a multitude of concrete practices. Authority does not exist as a matter of fact, but needs to be maintained and can therefore also become disputed in alternative settings where a concrete issue is politicized differently. Gomart and Hajer illustrate this point with the AIR Southbound manifestation. By shedding a new light on the plans for the Hoeksche Waard it also questioned the authority of bureaucratic powers. It showed that striving after a more democratic politics of the future of the Hoeksche Waard does by no means urge for reformation of the provincial organization.

With regard to structural features of politicization (ii) the very notion of politics is at issue. Critics argue that ambiguous conceptions of (displaced) politics potentially encompass an absurd variety of practices, including opera's and heat-waves (De Vries forthcoming). What then would be the difference between potential and actual political practices? How do political settings come about? At first sight, Gomart and Hajer seem to conceive of politicization as an autonomous initiative. "Actors not only deliberate about the solutions for the problems on their agenda, but *while doing so*, also negotiate new ways of doing things, resulting in new political practices. [...] They design new concrete conditions, and search for new shapes of legitimate political intervention" (p. 34). But while these initiatives and experiments may be autonomous actions, the question whether they resulted in politicization depended on their effects. Politicization may be intended, but its success remains contingent. AIR PLUS, for example, was an initiative of five Hoekschewaarders who were dissatisfied with the absence of local voices at the AIR Southbound manifestation. AIR PLUS, however, could only come about after AIR gave permission to bring the exhibition to the area, a water management agency offered the hall of its headquarters, inhabitants heard about the debates, they recognized their importance or simply got curious, etc. The organizers only succeeded to politicize the issue within the Hoeksche Waard at the moment a group of Hoekschewaarders emerged willing to participate in debates. Thus, if Gomart and Hajer conclude that politics is the co-construction of an issue of public interest and a participating public, then the meaning of 'politics' is as emergent as the categories 'public interest' and 'public'. *The question whether a process is political or not can henceforth only be answered retrospectively*. It does not make sense to speak of the variety of potential meanings or the structure of actual meanings.

To conclude: the introduction of self-service in the Amsterdam trams

In this paper we discussed the problematic relation of democracy and technology. In STS literature four repertoires can be distinguished, which have emerged in response to each other. They differ in terms of the basic concepts and with respect to the possibilities of enhancing the political process. Table 1 summarizes our findings. We will end this paper with an illustration of the feasibility of the reflexive approach to technological innovation and democracy with a case study about self-service in the Amsterdam trams around 1970 {Nahuis, forthcoming #222}. This innovation comprised the replacement of conductors with several kinds of machines, and as a barely foreseen consequence the emergence of different modes of fare dodging by passengers. To remedy the weaknesses of the technology, the Amsterdam Transport Company, its customers, and the city council found themselves involved in the politics of innovation. Nahuis analyzed the case in terms of translations of action programs. Action programs are the routes that innovators want their users to follow. The 1973 self-service system emerged via a route that needed seven action program translations. These transformations were solutions to conflicts that the previous version had either established or continued. Latour coined the concepts of action programs and antiprograms in order to explain how the properties of artifacts come about through antagonism, local decisions and contingencies. In our case, the translations themselves are object of analysis. Their political nature is to be explained. If technological innovation can be conceived of as politics continued with other means, than each action program constitutes a potential political issue, each anti-program involves an attempt to politicize the issue and each translation may be a political process. From this starting point three empirical questions were addressed:

- What were the issues?
- How were issues politicized?
- How should the political process be qualified?

What were the issues?

By following the subsequent translations of the action program the analyst can trace the issues that are potentially political. What were the issues in this case?

0. In the old situation everybody had to pass the conductor who sold and controlled tickets.
1. The Amsterdam Transport Company (GVB) equips trams with stamping machines and expects everyone to take his own responsibility.
2. Fare dodging is formally disapproved by an adjustment of the regulations and bylaws.
3. A public campaign is initiated to point everybody to the new instructions and regulations.
4. Teams of uniformed ticket inspectors are employed.
5. Inspection strategies are adjusted as one inspector will enter the tram in civilian clothes.
6. Although the number of fare dodgers evidently increases, the GVB declares it is only a marginal group of hippies and outcast who abuse the system.
7. The fines are increased threefold.

Each intervention (translation) involved an addition or substitution of elements of the GVB/stamping machines network. Formal regulations displaced moral appeals, inspection was added to mere self-responsibility, higher

finer displaced lower ones. Each addition was henceforth supposed to extend the force of an initially vaguely defined action program: “*everybody ought to take care of her own ticket.*” With every intervention more fare dodgers were discouraged and fostered to follow the GVB’s track. For example, the decision to dress one inspector in civilian clothes was supposed to discourage fare dodgers who quickly stamped their ticket as soon as uniformed inspectors entered the tram.

How were issues politicized

The case shows that successful politicization happened in situations where the circumstances impinged on the sense of justice of either one of the involved parties—the company, customers, taxpayers, or hippies (Nahuis, forthcoming). The political nature of the issues depended on the claims about the fairness of a situation or the proper distribution of responsibility. For example, the first intervention, the decision whether to start and finance the project at all, became a political issue elaborately discussed within the city council because the inefficiency of the service was a situation that the Amsterdam municipality and the tram passengers unjustly paid for. The second intervention, adjustment of the regulations was an associated political issue because the promised increase in efficiency required that an incomplete contract between the municipal transport company and its customers be remedied. The third intervention, the public campaign was politically induced to prevent unfair impositions of fines to incidental and foreign users. Attempts to politicize action programs appeared to be successful if political claims referred to generally accepted normative principles, which actors then tried to apply to a new situation. Thus, constitution of a political issue happened at the cross-section of social circumstances (the actual conflict) and historical circumstances (what is fair?).

How should the political process be qualified?

Good political settings, we have argued, are positively biased and lead to interesting results. Good politics is a qualification that can only be attributed retrospectively. Gomart and Hajer plea for experimentation with political forms. No political form is pure and perfect and each established procedure can be challenged by other ones. Only the succession of *different* forms that are induced by each others imperfections may lead to something worth qualifying ‘democratic’.

Instead of experimentation with novel political forms, Nahuis has followed the political forms that were actually induced by the actors involved in introduction of self-service in the Amsterdam trams. Most issues – like the investment proposal, the adjustments of regulations, the employment of inspectors – were politicized within an established institution: the city council of Amsterdam. Yet, one of the most interesting political processes was only partly enacted within the council. When numbers of fare dodgers appeared to increase ‘alarmingly’, Mayor and Alderman proposed raising the fine from NLG 2.00 to NLG 5.50. A fundamental objection, however, was made by Councilor Van Duijn. He sympathized with hippies and “provos,” being one of them himself. Van Duijn did not find the increase in fare-dodgers alarming at all. On the contrary, he supported the claim that public transport should be free of charge and rather encouraged fare dodging. He referred to the ideas of State Secretary Van Hulten and rejected the fine increase as a further step away from the ideal of free public transport. In response, Alderman Brautigam answered: “If Mr. Van Duijn thinks it is a wrong step to take, then the only

possible reaction is that the wrong step is taken within the existing legal order". A vast majority of the council supported the Alderman and Van Duijn's claim was rejected.

Two conclusions can be drawn from this episode, which we reject both. The first is that the setting of the council biased the treatment of the issue. Minority interests do not have a chance within a majority-rule conception of democracy. They will always be canceled out. We reject this conclusion, because in the same case multiple examples can be found in which issues were intensively deliberated before being subject to voting. Conceptions of deliberative democracy certainly prevailed over majority-rule democracy. Should we then conclude that Brautigam effectively depoliticized the issue by judicifying it, by shifting it to a judicial setting that had already judged? That would also be a somewhat strange conclusion. After all, why would Van Duijn's have accepted this shift to a legal order, while he exactly put this legal order (established six years earlier) at issue. Van Duijn wanted it changed on behalf of those people who advocated free public transport – a valid ambition – because adjusting legal orders to new circumstances is exactly what politicians ought to do.

In order to understand the decision we have to delve into the history of the issue. When growing fare-dodging percentages were published, the problem increasingly became a subject of public suspicions. Newspapers were eager to comment, and journalists traveled along with inspectors to do participatory research. The idea of free public transport received a great deal of attention. Experiments with free transport in Bologna and other Italian cities heightened the discussion. When the Socialist Youth demonstrated for free public transport in reaction to fare increases, 24 newspaper articles within three weeks were devoted to these actions. Moreover, the new State Secretary of Transport, Public Works and Water Management, M. Van Hulten, had recently published his book, *Free Public Transport*. The issue had become more popular and widely discussed within a variety of settings: newspapers, demonstrations, books, street-talk, experiments. The issue went through a meandering succession of political forms.

But did that also lead to interesting and unexpected results? Particularly the Socialist Youth had succeeded in the emergence of a very active group of demonstrators and the engagement of many Amsterdam citizens to discuss the advantages and disadvantages of free public transport. It had forced alderman Brautigam to take a stance at earlier occasions. And although local authorities never went with the minor interests and hippies' ideals, the wide public discussions may have changed minds of the public. The demonstrations were good for engagement of a diverse public. However, they were far less good for the issue itself. In the years to come the 'public interest' of free transport seemed lost track of. For sure the numbers of fare dodgers started to increase up to 3% in 1974 and 5% in 1979. Did the discussions about free public transport perhaps contribute to a more flexible attitude toward fare-dodging, at least within certain user groups? We may conclude that when good politics is the co-construction of a 'public' and an issue of 'public interest', then actions and pleas for free public transport succeeded in the first, but only temporarily in the latter.

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