Editorial: From rejection and resistance towards redesign

Guido Ruivenkamp & Joost Jongerden

In this third issue of the Journal Tailoring Biotechnologies three acts with respect to biotechnologies are presented. The act of refusing to accept technology **(rejection)**; the act of opposing technologies that are disapproved of or disagreed with **(resistance)**; and the act of developing new and different kinds of technologies **(redesign)**. Despite their different emphases, these three acts are also closely interrelated. The act of redesigning current agro-industrial biotechnologies in the movement to tailor-made biotechnologies implies the act of rejecting the actual form of biotechnology design as well as that of resisting the existing unequal power relations which are integrated in the design of biotechnologies as things stand.

The first article of this volume presents a reflection on the work on one of the most contentious philosophers of our time, Toni Negri (b.1933). His life and work are marked by such themes as rejection and resistance, and a search for something new. Negri was professor of political science, focusing on State Theory, at the University of Padua, and lecturer in political science at the University of Paris. In 1983 Negri fled from Italy to France for political reasons, where he continued teaching at the *Université de Paris VIII* (Saint Denis) and the *Collège International de Philosophie*, founded by Jacques Derrida. His work is intellectually rich and wide-ranging, which makes it difficult to summarize in a few words. Negri engages in critical discussion with the work of Marx and Spinoza, his ideas resulting in the development of an intellectual exchange with the work of such political philosophers as Michel Foucault, Gilles Delezue, and Felix Guatteri. **Arianna Bove and Erik Empson** discuss Toni Negri's theory of social change in their contribution *'A politics of the present: Negri's contribution to the critique of power'*. Rather than theorizing about technological developments and innovations as causes of change, Negri argues that social relations are the central dynamic within society. On the superficial level, the constitution of society is technological, but since tech-

nologies themselves are social, the constitution of the society is not a technical process, but a social one. There is here a rejection of the instrumentalist and technocratic vision of technology and, furthermore, a resistance to relations of domination and subservience, with a quest for ways in which power relations can be changed from below. The Foucauldian concepts of biopower and biopolitics are central to Negri's analysis, and it is these on which Bove and Empson focus, clarifying how Negri's approach does not provide an ontology of power, but an analysis of its working, along with the suggestion of possible ways in which to change the relation of dominance-subservience by creating power from below. Although Negri's politics and theory attempt to evaluate political strategy in any given situation and are always a matter of intervention in the here and now, an exploration of ways in which Negri's analysis can be integrated into a social strategy of redesigning (bio)technologies remains as yet undone.

The second article, by **Pim Lindhout** and **Daniel Danial**, *'The quest for participatory development of genomics in the food-production of quinoa'*, represents a reflection on the effort of redesigning genomics in a contemporary context in which the new technologies are generally developed and applied in the developed countries. The authors emphasize that less developed countries often do not have the infrastructure and capacity to implement the new technologies, and, even if they do succeed in implementing new technologies (at high costs), the technologies are often not tailored to local conditions and may even be deleterious in the long term. Rejecting this state of affairs, Lindhout and Danial argue that the development of new technologies should indeed be tailored to the local conditions: in the case of genomics, for example, the needs of local food networks should be paramount. They detail a case example - that of quinoa - in participatory development in the field of genomics in order to illustrate their quest for the use of new technologies in a breeding program which is attuned to the interests of local farmers. Lindhout and Danial refer to the development of specific markers in focusing primarily on genomics-supported breeding in relation to the quinoa food network and production chain.

In the third article, *'Tailoring Biotechnology in Ghana: Implications for Genomics Development'*, **Godfred Frempong** applies what Bove and Empson have called Negri's *'genealogy of the present'*, i.e 'an imagination that brings into being what has been in the past, …[and] constitutes what is to come'. An effort is made to draw lessons from the past experiences of tailoring biotechnologies to the needs of the resource-poor in Ghana for the reconstruction of

future genomics development. Godfred Frempong resists the incorporation of agro-industrial biotechnology within the narrow frame of an ongoing industrialisation of agriculture in global food chains, and argues instead for a new biotechnology program, one in which various social actors from the South can negotiate for social space in the technology development process and integrate their social economic perspectives and requirements into the technology development agenda. This tailoring process explicitly recognizes the farmer as an active participant in the research process, acknowledging indigenous knowledge and supporting farmer-scientist interactions as a new model for biotechnology development. Since tailoring as a process recognizes different farming styles and reinforces the heterogeneity of agricultural systems, the technologies produced are 'localized' too. Frempong illustrates his argument with the case of protein-enriched local maize varieties, and emphasizes the relevance of establishing an international knowledge network for the approaching construction of genomics research.

While efforts directed towards the redesign of biotechnologies are presented by Lindhout and Danial as well as by Frempong, a historiographical description technology rejection is presented in the article, *'The achievements of General Ludd. A brief history of the Luddites'* by **Kirkpatrick Sale**. The introductory article on *Luddites, or the politics in Technology by* **Joost Jongerden** briefly positions the importance and scope of the Luddites movement and their treatment in historiography. He emphasizes the importance of studying the Luddite movement for those who are interested in any discussion of the social reconstruction of technology. It will be relevant to explore further the relation between rejecting, resisting and redesigning technologies, and a plea is therefore made for the submission of further articles on ways in which the well-organized movement of machine breakers - resisting the new form of domination symbolized by the factory system - has evolved into social movements for the transformation of social relations. Kirkpatrick Sale discusses the Luddites within the historical context, arguing that they were not anti-technology, but only opposed to those technologies harmful to the 'commonality'. Sale states that the Luddites were among the first to recognize that technologies are not neutral, but value-laden, and that society must have a say in the values desired in technology. One of the conclusions to be drawn is that Luddism brought the whole issue of technology into the public arena, by rejecting the narrow relationship of technology development to domination and transforming it into one of resistance and reconstruction.

A recent example of rejecting the (imaginary) claims of modern biotechnologies can be found in the article by **Peter Rossett**, *'Genetically modified crops for a hungry world: How useful are they really?'* Peter Rosset critically assesses the claims that crop varieties can raise the productivity of poor Third World farmers, feed the hungry and reduce poverty. He rejects these claims on the basis of an analysis of global hunger data, the constraints that affect the productivity of small farmers in the Third World, and the factors that explain their poverty. He argues that no significant role is found for crop genetics in determining hunger, productivity or poverty, thereby casting major doubts on the ability of new transgenic crop varieties produced by genetic engineering to address these problems. Moreover, Rossett examines the special risks these varieties pose for poor farmers in the complex, diverse and risk-prone environments that characterize peasant agriculture on a global scale, concluding that transgenic crop varieties are likely to be more of hindrance than a help to the advancement of poor farmers.

The various positions of rejecting, resisting and redesigning technologies are based on the acknowledgement that the constitution of society is not (or should not) be based primarily on technological developments but - since technologies are social practices - is primarily a social process. Therefore, this third volume of the *Journal of Tailoring Biotechnologies* concludes with a short review of *'The urban village. A charter for democracy and local self-sustainable development'*, by **Alberto Magnaghi**. In his review of Magnaghi's book, **Joost Jongerden** emphasizes that the Territorialist School of the University of Florence proposes a transformation of land use planning, from a *planning for an abstract space* into *planning for social spaces* facilitated by new agencies and forms of local sustainable development. This Journal argues likewise that the design of biotechnology for abstract (business) interests can (and should) be converted into a redesign in which biotechnologies are attuned to and embedded within local sustainable development perspectives. The *Urban Village* also rejects the rural-urban divide, and proposes a network of sustainable rural-urban networks in which strategies of development are elaborated. It may be asked whether and how localized technologies can be interrelated with such developments. An important lesson to be learnt from Magnaghi's Urban Village is its rejection of the designing of technologies related to abstract sites and interests, and the plea instead for the creation of actual social places as the arena in which agencies and new forms of direct and participatory democracy for the redesign of localized technologies may appear.