CENTRE FOR DIGITAL LIFE NORWAY

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# Ethical Issues of Converging Technologies


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## II. The globalization of the technocratic paradigm

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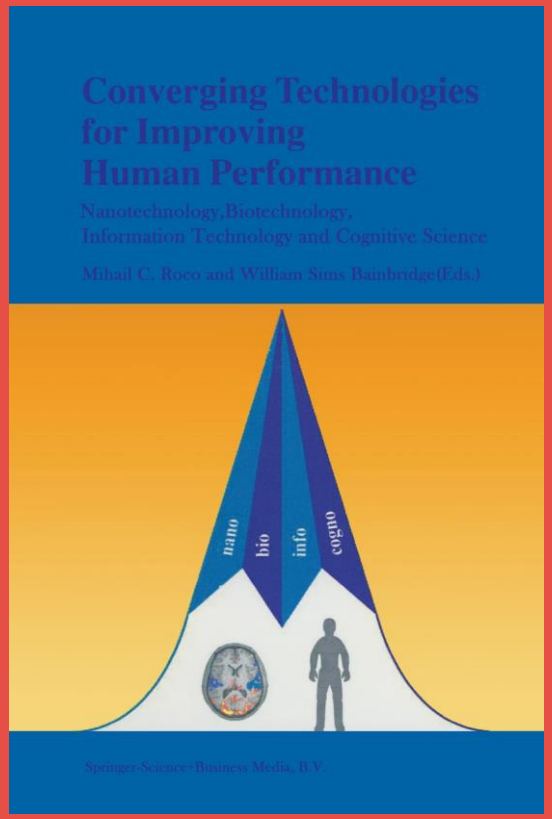
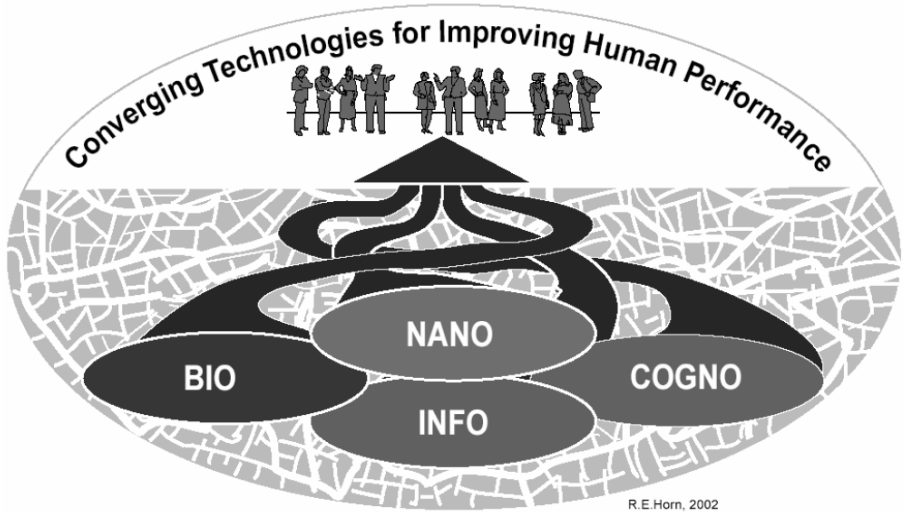



*Changing the societal "fabric" towards a new structure*
(upper figure by R.E. Horn)

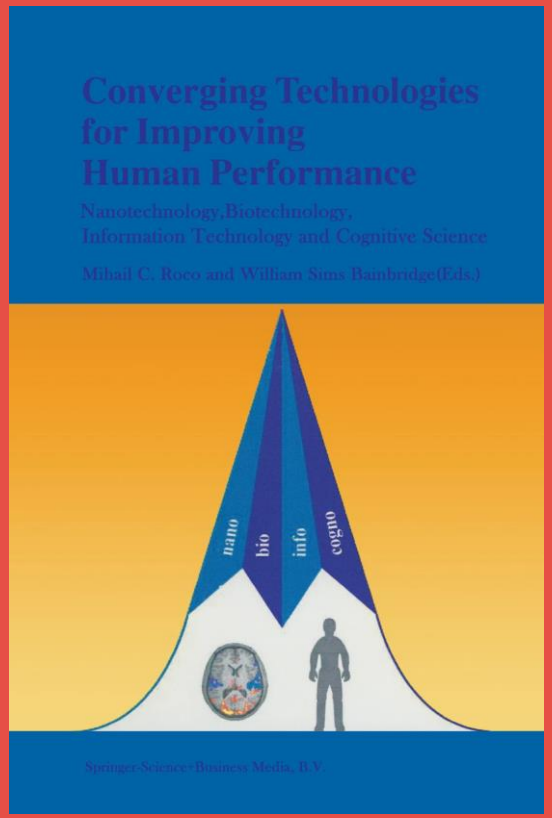
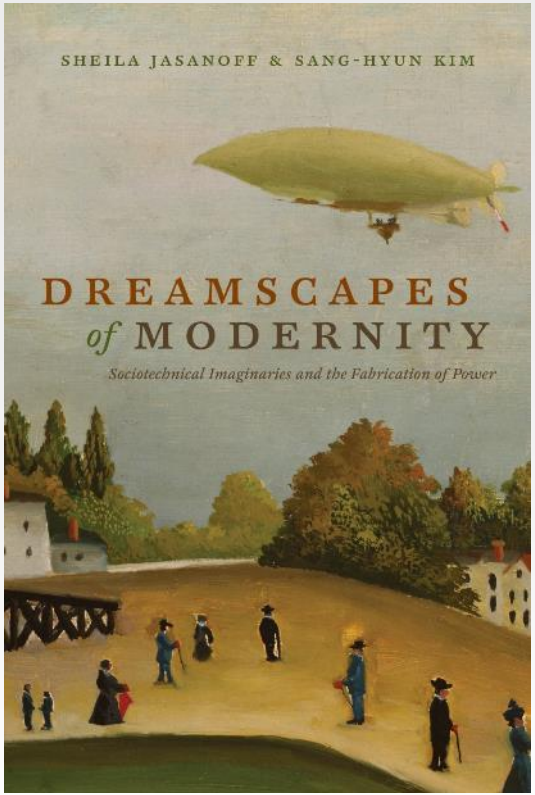


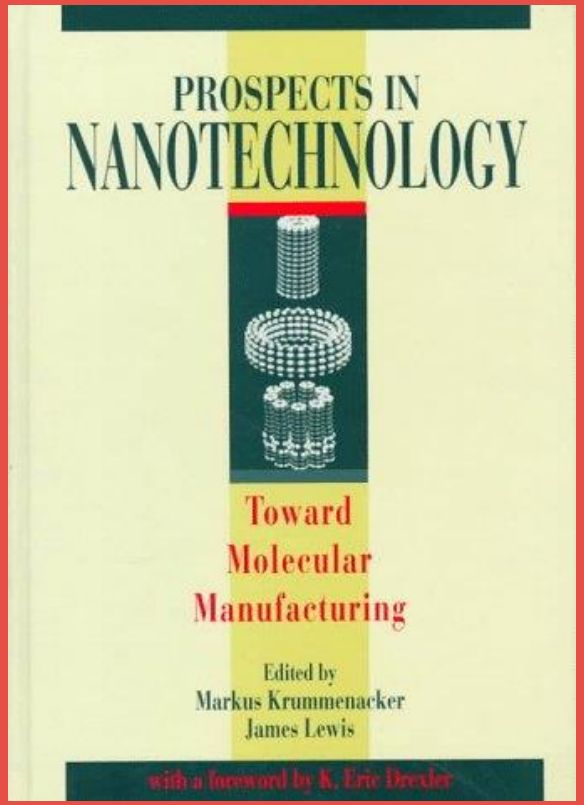

**Table 1. Main improvement areas relative to an individual**

| Relative position | Improvement area |
|---|---|
| External (outside the body), environmental | • New products: materials, devices and systems, agriculture and food<br>• New agents: societal changes, organizations, robots, chat-bots, animals<br>• New mediators: stationary tools and artifacts<br>• New places: real, virtual, mixed |
| External, collective | • Enhanced group interaction and creativity<br>• Unifying science education and learning |
| External, personal | • New mediators: mobile/wearable tools and artifacts |
| Internal (inside the body), temporary | • New ingestible medicines, food |
| Internal, permanent | • New organs: new sensors and effectors, implantables<br>• New skills: converging technologies, new uses of old sensors and effectors<br>• New genes: new genetics, cells |




**Sociotechnical imaginaries:**

*«institutionally stabilized and publicly performed visions of desirable futures, animated by shared understandings of forms of social life and social order attainable through, and supportive of, advances in science and technology.»*

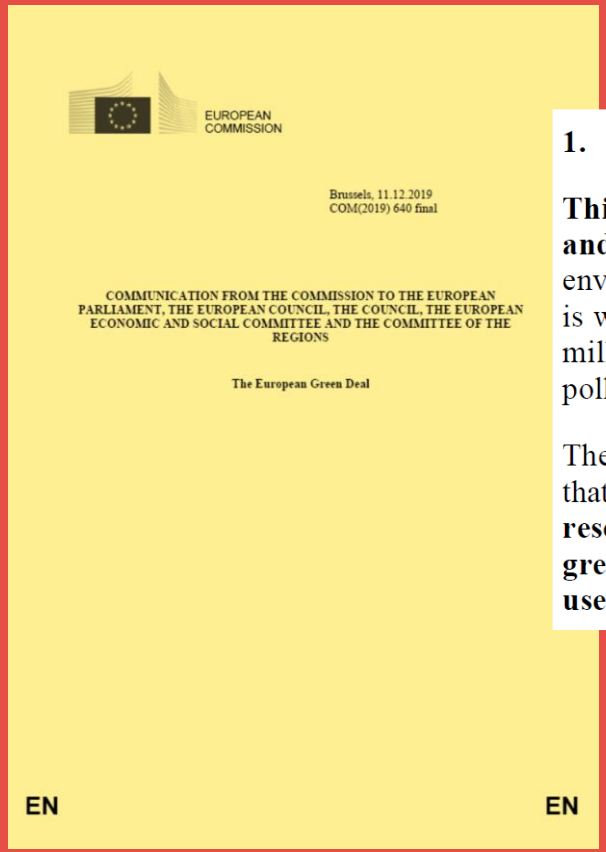



*"I find it appalling how many people are willing to accept the bad deal they have been given. We ought to be more insistent about improving our brains and our bodies.*

*.. I find it even more annoying that we have to live only a hundred years just because of a few evolutionary mistakes.. When we design new forms for ourselves, we will describe our intentions along with the plans."* (Marvin Minsky, 1995, p. 195)

## Where is the place of ethics?

*Ethics guidelines or review boards are not able to govern science and technology towards the common good.*



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COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE EUROPEAN COUNCIL, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

The European Green Deal

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## 1. INTRODUCTION - TURNING AN URGENT CHALLENGE INTO A UNIQUE OPPORTUNITY

**This Communication sets out a European Green Deal for the European Union (EU) and its citizens**. It resets the Commission's commitment to tackling climate and environmental-related challenges that is this generation's defining task. The atmosphere is warming and the climate is changing with each passing year. One million of the eight million species on the planet are at risk of being lost. Forests and oceans are being polluted and destroyed[1].

The European Green Deal is a response to these challenges. It is a new growth strategy that aims to **transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy** where there are **no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use**.

# Experimental evidence of massive-scale emotional contagion through social networks

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**Emotional states can be transferred to others via emotional contagion, leading people to experience the same emotions without their awareness. Emotional contagion is well established in laboratory experiments, with people transferring positive and negative emotions to others. Data from a large real-world social network, collected over a 20-y period suggests that longer-lasting moods (e.g., depression, happiness) can be transferred through networks [Fowler JH, Christakis NA (2008) *BMJ* 337:a2338], although the results are controversial. In an experiment with people who use Facebook, we test whether emotional contagion occurs outside of in-person interaction between individuals by reducing the amount of emotional content in the News Feed. When positive expressions were reduced, people produced fewer positive posts and more negative posts; when negative expressions were reduced, the opposite pattern occurred. These results indicate that emotions expressed by others on Facebook influence our own emotions, constituting experimental evidence for massive-scale contagion via social networks. This work also suggests that, in contrast to prevailing assumptions, in-person interaction and nonverbal cues are not strictly necessary for emotional contagion, and that the observation of others' positive experiences constitutes a positive experience for people.**

## Significance

We show, via a massive ($N$ = 689,003) experiment on Facebook, that emotional states can be transferred to others via emotional contagion, leading people to experience the same emotions without their awareness. We provide experimental evidence that emotional contagion occurs without direct interaction between people (exposure to a friend expressing an emotion is sufficient), and in the complete absence of nonverbal cues.

termined via a ranking algorithm that Facebook continually develops and tests in the interest of showing viewers the content they will find most relevant and engaging. One such test is reported in this study: A test of whether posts with emotional content are more engaging.

The experiment manipulated the extent to which people ($N$ =

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**What is missing?**

*The spiritual dimension is missing.*

*The understanding that the human body is not just an arbitrary collection of genes, cells and tissue, is missing.*

*Boundaries are missing.*

*What is counted, counts.*

**What can we do?**

*Encourage responsible research and innovation.*

*Count what currently does not count, building a science for human flourishment.*

*Listen better to peripheral voices.*

## What can we do?

*Continue to ask:*

*“Can this sociotechnical trajectory help us remember how our lives truly can be, and support our strength to live them?”*