

DESIGNING TRUST :
AUTONOMOUS SYSTEMS IN THE PUBLIC EYE

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HOW IS MACHINE AUTONOMY BEING EXPRESSED ?

Intelligent machines are increasingly pervasive in our lives – transforming domains as diverse as healthcare, education, finance, public safety and defence, household management, urban management and infrastructure. What we are witnessing across these fields is a steady shift from human operated machines, to highly automated robotics. There's everything from autonomous minesweepers, to dog therapy robots, collectively programmed swarm robots, medical operating nano-robots, and the virtual personal assistant that sits in our smartphone.

For lack of better words, we refer to these machines as **subjects**. The anthropomorphism of robots is the most apparent manifestation of this. We project onto machines our desires – which become reality with a decreasing degree of input on our part. We project onto them empathic feelings. We ask of them to keep a memory, to learn. We project onto them agency. We project onto them responsibility. We project onto them our own image, or the shape of an animal. We treat them as beings. We **design them**, as beings.

WHAT IS THE PROBLEM WITH THIS REPRESENTATION ?

One problem is that robots are not beings.

Technology is the highest expression of human rational thought. But it stops being a tool when he who utilizes it loses the ability to manipulate it. It is in

this sense, that our ownership and operation of machines is being progressively reconfigured as the coexistence of man with a new breed of systems.

People who think most about technology, professionals who work for the incessant refinement of intelligent machines, have been voicing their concerns *vis à vis* the growing sophistication, and diffusion, of artificial intelligence in our lives. Most recently, the open letter signed by Elon Musk and Stephen Hawkins, among many others, gave voice to just such concerns. Why the mistrust?

The intelligence of intelligent systems may not, in and of itself, be the problem. Our mistrust for The Matrix and our sympathy for HitchBot and Siri lay roots in the same design mistake. Our claim is that fear and sympathy are both captured by **the perfect machine**. Human projections of sentiment are elicited by the robot that appears and performs like a living organism, that is perfectly autonomous. The one that necessitates no active input. That selects (and ignores) information at its own discretion. That has lost all features of the tool.

These same factors disorient policy makers.

LET'S DISCUSS APPROACHES.

Complexity and perfection are the key ingredients of most of today's smart devices. They are the enemies of trust. Robotic systems need to address wider issues of transparency in order to enable their own acceptance. We will be

discussing examples by which design and policy strategies can be implemented in a way that instead **produces trust**. The discussion will take cue from a quick overview of our practical experience with UAVs, and the civic drone industry more generally.

BIOS

Clara Cibrario Assereto studied law and public policy at universities in Italy, Spain, Syria, Mainland China Hong Kong and the United States. She took an LLM from Harvard Law School, where she specialized in policy and technology studies. She then worked as a Project Leader and IP Strategist at the MIT Senseable City Lab. Her work at MIT emphasised on urban design, digital technologies and applied research, in particular smart cities and big data. She continues to collaborate with Harvard on these issues as a fellow at Harvard's MetaLab, part of the Berkman Center for the Law and Society.

Chris Green is an architectural and urban designer, whose work forges new relationships between people, technology and the city. Engaged with emerging technologies, Chris's work explores the future of our digitally-connected

environments through the design of interfaces, objects and infrastructures. With a background in Architecture from the Royal College of Art, Chris was a Research Fellow at MIT Senseable City Lab, and is currently Designer in Residence at the Design Museum, London.