SIGNATORY ROBOTS

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Seing is the medieval French term for various ways of marking, of signing with a symbol to authenticate deeds or certificates: the ancestor of the term *signature*. From the Latin *signum*, it is now developing a new dimension in our digital society with electronic signatures, and more especially when inscribed by a robot.

A robot, replacing the president of the Ecole Polytechnique in France, recently signed the founding convention uniting the partners of an education and research program supported by EnsAD (the French national art and design school), Fondation Daniel & Nina Carasso and Polytechnique. That legal-robotic performance, entitled *SEING Performance* (Fig. 1), raises a number of questions: technical, legal, anthropological, philosophical.

I designed that performance, the first step in a multidisciplinary research project bringing together legal experts, designers, engineers and researchers in the social sciences and engineering.

The question of robot signatures is the theme uniting this research. To summarize, three principles guide the research on "signatory robots": The first principle concerns *forms of visibility* (the design of the signature: the drawing and the gesture, its conception and realization, the differentiated reproducibility); the second focuses on analyzing and testing/experimenting with the *forms of the terms/wording* (signatory, legal foundation, contracts, laws, conventions); and the third principle, which in a way results from the interaction of the first two, focuses around the *processes of subjectivation* at work (subject, sociality, rituality). The robot as signatory is thus an opportunity to observe not only how these interactions are established and how the connections create new subjects (in the "human" sense) but also unforeseen situations, new ways of creating subjects.

The signature in all its forms—delegated, simulated, autonomous—is examined from multiple angles in the article. From the history of delegation devices (from Jefferson to Obama) to artistic experiments, and up to their current most unexpected developments, these various perspectives make it possible to question contemporary issues related to today's *dispositifs*. These machines invent, reproduce themselves and make mistakes, the better to learn—according to the models of *creative machines*, *deep learning* and *persuasive design*—and also organize themselves into networks to collaborate, calculate, act upon the world, with humans and among themselves: autonomous cars, AI judges or doctors, blockchain *smart contracts*, high-frequency *trading*, *ambient interfaces*.

My supplemental article is therefore an account of that first performance as well as an opening onto perspectives for multidisciplinary research: It is a sort of brief manifesto.

Note

This English-language extended abstract is based on Emmanuel Mahé, *Les robots signataires: Processus de subjectivation robotique*, which is available as an online supplement.

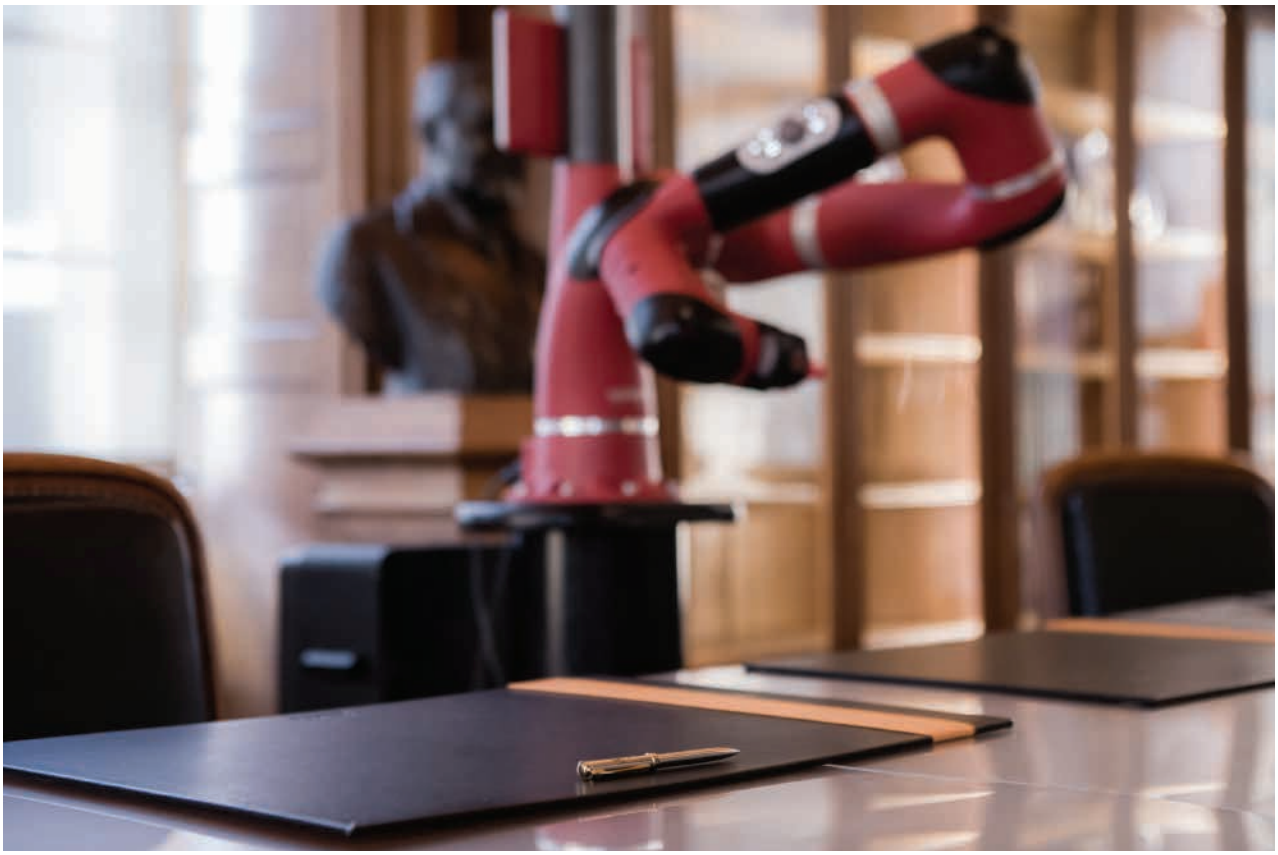

Fig. 1. *SEING Performance*, view of robot, pen and table, at the Pasteur Institute in Paris (EnsAD—PSL Paris université). (© Emmanuel Mahé. Photo © École Polytechnique—J. Barande.)

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