

English abstract of the Dissertation of Cosima Wagner

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Robotopia Nipponica. Research on the Acceptance of Robots in Japan, Johann Wolfgang Goethe-University Frankfurt 2008. 240 pages, 53 figures, 11 tables, (to be published soon at Tectum Verlag / Marburg).

The popularity of robots in Japan has been discussed since the massive installations of industrial robots during the 1980s and has come into focus again since the end of the 1990s. New “social robots” are introduced as future service providers for Japan’s ageing society and praised as “saviors of Japan“ (book title in 2006). Governmental strategy papers declare “next generation robots” as one of seven most important industries for the future of the Japanese economy. Regarding the reasons for the great openness towards robot technology, most studies stress a perpetual “robophilia” as a national character trait of the Japanese people, from the mechanical dolls of the Edo period to the countless robot heroes of Japanese popular culture since the 1950s (Astro Boy, giant robots like Gigantor, Gundam etc., Doraemon), who altogether stand for a “Japanese Way of Robotics” (title of a leaflet of the Japanese External Trade Organisation JETRO on the occasion of Hannover Messe 2008 / Germany). Furthermore most Japanese and Western scholars argue, that according to ancient Shinto belief in Japan even everyday objects and natural phenomena incorporate a spiritual life, which would make it easy for the Japanese of today to treat robots like animated beings.

The dissertation elaborates, that most of the before mentioned arguments turn out to “invented traditions”. However, a dominating influence of the positive robot narratives on the developers and consumers of robot technology in Japan can be documented. Originating in the postwar area, when the technological inferiority of Japan became obvious and was heavily felt, the establishment of positive robot narratives as well as a technological optimism about science and technology was an important moment for the Japanese self-representation and self-assertion towards the West and has since been instrumentalized by different stakeholders at different times.

The dissertation is based on methodological approaches of the history of objects, the sociology of technology and a cultural sciences perspective on the development of technology („kulturwissenschaftliche Technikforschung“). In the first part, narrations

of Japanese robots are examined, illustrated by a conceptual history of the term „robot“, an introduction of pop-cultural robot „role-models“ and by a critical analysis of recent governmental robot prose („A day in the Life of the Inobe Family“ in the year 2025). The inclusion of robot narratives into governmental strategy papers and scientific publications demonstrates the importance of fictional visions for the future development of robots in Japan and can be summarized with the motto „science fiction shall become science fact“, which is subject of the second part of the dissertation.

After a detailed exposition of governmental robot technology measures and strategy plans since the turn of the millenium, insights in the characteristics and problems of the Japanese robotics science are delivered by introducing the perspective of Japanese robotic researchers and developers. Finally, three case studies on the therapeutical application of robot technology (robot therapy) in two Japanese nursing homes describe first examples of an interaction with new „social“ robots.

In the third part it will be concluded, that on the one hand, as a Japanese Studies research topic „social“ robots illustrate the “negotiation character of the creation and use of technological artefacts” (Hörning), which for example includes the rejection of military applications of robot technology in Japan. On the other hand, as a cultural topos, they mirror the dreams, desires and needs of human beings at a certain time and therefore have to be interpreted as political objects as well.

As a source for a Japanese history of objects „social“ robots exemplify the cultural meaning of robots, the expectations of the Japanese state and economy, the mentality of Japanese engineers and scientists and last but not least the socio-cultural change, which the ageing Japanese society is about to face.