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## BOOK REVIEW

### THE “ACTUAL SITE” OF ROBOTS IN CARE

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#### **Robots won’t save Japan: An Ethnography of Elder Care Automation** By James Wright (Cornell University Press, 2023)

All endeavours of automation in eldercare lay on the same three cornerstones of argumentation: 1) The identification of demographic change as a key challenge for national economies. 2) The increasing number of people in need of long-term care would be offset by fewer and fewer professional caregivers. 3) Together with the already overburdened care sector and chronically underfunded social security systems, this would result in a so-called “care crisis”. For at least two decades now, politicians, funding bodies, tech companies, robotic engineers and providers of inpatient geriatric care have been propelling *technological solutions* to deal with this demographic, labour policy and economic emergency. Over the last years, an entire ideology of “techno-solutionism” (Morozov 2014) can be observed, based on the presumption of ever-increasing growth of computational possibilities and the scalability of digital solutions.

The efforts to develop and implement robots in geriatric care represent the presumably most prominent example of this solutionism. Especially in the eyes of Western observers the Japanese society has become synonymous with a technophile, self-proclaimed “Robot Kingdom” (Sone 2016), where the problems on the way to a robotized society have apparently already been solved. James Adrian Wright’s ethnography “Robots won’t save Japan” is dedicated precisely to the gap between promised solution and actual state of implementation of Japanese care robots. The title of his book quotes –and negates– a promise of salvation that has been made by industrial robot company chairs and journalists: Robots will (rather not) save Japan. On 149 pages “Robots Won't Save Japan” opens a comparatively concise but well-informed in-depth exploration into the making and consequences of this socio-technical imaginary.

In a comparatively short 133 pages of text, Wright guides the reader through various facets of his subject. He begins by reconstructing the link between care and crisis (chapter 1), then

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<sup>1</sup> The reviewer has been researching social robots and their engineers since 2012, with a particular focus on (alternative) care robots since 2019. He considers the mutual publication with A. Maibaum, J. Hergesell and B. Lipp “A Critique of Robotics in Healthcare” (2022) as key English-speaking output of that research.

turns to robot development as a social world in its own right (chapter 2), before diving into three case studies of robot applications (chapters 5 to 7) via a portrait of institutional care for the elderly (chapter 3), before finally asking what shared visions of the future are available beyond care robots, rather than the promise of the constantly improving robot.

Through this structure, Wright explores and connects two crucial social sites, firstly the world of robotic engineering, its goals and limitations on the way to making robots for elderly care work. And secondly, the world of institutional geriatric care itself, which follows its own rules both as an organisation and as a social situation, which Wright brings to the readers with the wonderful Japanese term “*genba*”. In Japanese, it is used in the meaning of “the actual site” (p.17). In certain management methodologies, *genba* is the site within an economic organisation where value production is created –such as a factory line, a construction site, or a sales floor–, and where problems, opportunities and limitations become visible. Institutional care facilities trying to use commercial robots outside of short-term experiments and without additional labour from accompanying robotic engineers are the *genba* of the promise of care robots, and Wright walks us knowledgeably and attentively through the actual state of care robots.

The book is based on Wright's doctoral thesis in Anthropology and Science and Technology Studies, accepted by the University of Hong Kong in 2018. Its empirical core is a multi-sited ethnography carried out over a total of 18 months. Wright took part in scientific and everyday life at AIST, Japan's National Institute of Advanced Industrial Science and Technology which is a central hub for its national research policy and out of which several commercial robots have been spun off. On the other hand, he examined nursing home reality by accompanying an explorative field study of an institutional care facility in the greater Tokyo area over 7 months, in which three different commercial robot models were used and practically evaluated. Since most empirical studies on the socio-technical conditions of (care) robots usually argue based on empirical material exclusively from one of the two sites –the context of robots' development *or* concrete care situations with robots – Wright's study offers a more comprehensive view. Supplemented by a historically and socio-politically informed perspective on the conditions of elderly care in Japan in Chapter 1, the book holds a lively picture of the interactions between robot development and geriatric care, their contradictions, and unexpected similarities.

#### OPENING THE BLACK BOX OF ROBOTICS

In the second chapter, Wright offers an inside view of AIST's sprawling campus in Tsukuba (p. 37ff), a city designed as a hub for research and innovation. The institute serves as a critical intermediary between Japan's national science and technology strategy, academic research, and the high-tech industry. He describes the complex organisational structure of AIST, highlighting the overlapping research groups focused on various aspects of robotics, including service robotics, smart mobility, and human informatics. Wright explores the institute's engagement with international standards bodies, its contribution to global “robotics diplomacy”, and its involvement in shaping the ethics of robot care are exemplary. These efforts are part of a larger strategy to position Japan as a leader in the global market for care robotics, navigating the complexities of international competition and collaboration.

The description of cultural and operational dynamics within AIST (e.g. p. 46-47) echo themes that have been highlighted by other studies of robot development as well (e.g. Lipp 2019): Engineers and researchers work in a highly specialised environment, emphasising the technical feasibility over the situation of use, and often operate within silos. This isolation is contrasted by Wright with the communal and collaborative nature of care work, underscoring a fundamental tension in the integration of robotic technologies into human-centric care practices.

Wright captures this with the concept of "algorithmic care" (p. 56ff), as he calls the approach to apply mathematical and logical precision to care practices, eventually to create a more efficient and manageable care system. "Algorithmic care" in Wright's depiction becomes a scientifically rationalised, Taylorized, and in consequence dehumanised approach to caregiving. At this point, however, the generalisation seems too daring, because the compulsion to operationalize (to us) meaningful practices in "tasks" that can be controlled by computers can indeed be observed everywhere where computers are used. Since Wright's inquiry contrasts between a national top-down strategy and the situative bottom-up phenomena of fitting robots into care situations, a clearer differentiation of "algorithmic care" as a technical condition of the socio-technical enterprise and its consequences –not as an a priori normative paradigm of human actors– seems more appropriate here.

The analysis of the world of robotics in chapter 2 is again convincing when Wright follows the roboticists and their everyday practices. Here, the contradictions of the goal of automation are negotiated illustrating their efforts to navigate the intersection of technology, care, and values. Engineers do not just create robots that can perform care tasks effectively, they sense the gap between the idealised vision of robotic care and the realities of implementation and acceptance in the care sector as the boundaries of their work. Wright describes the resulting internal dynamics within the engineering teams, including the hierarchy of expertise and the tension between the pursuit of technological innovation and the practicalities of producing usable and helpful care robots.

#### THE "ACTUAL SITE" OF CARE

While Chapters 3 to 6 are dedicated to the ethnography of a residential care home and three robotic interventions, the context of the Japanese 'care crisis' is recapitulated in Chapter 1. Here, Wright explores historical and socio-economic factors contributing to the current Japanese 'care crisis', including changes in family structure, gender roles, and employment patterns, which have reduced the availability of traditional familial care through females. The government's role in promoting care robots through policies, subsidies, and research initiatives is critically examined. Wright unrolls this backdrop, which is deeply rooted in the assumption of a feasible technological substitution of human care work, to open the doors wide to his successful analysis of the irritations actual care practices cause in the process of implementing the proposed robot solution.

The ethnographic account prominently refers to the term "in the wild" (p.139), which is used by roboticists to describe the from their point of view unstructured and potentially malicious

situations to robots outside controlled environments.<sup>2</sup> Wright is setting the scene with three in-depth examples, each studied before, during and after the initial implementation – a lifting device (p. 80–113), the affective robot pet-seal “Paro” (p. 95–114), and the humanoid Pepper robot for recreational activities (p. 115–132) –, detailing the reactions of both the care recipients and the staff, and how existing practices become “reconfigured”. He highlights several key challenges, including the technical limitations of robots, the learning curve required for staff and residents to effectively interact with the machines, and desired and undesired outcomes of the use in care practice. Wright’s depiction of the adaptation rightfully highlights the robot’s ability to fit into the social and emotional fabric of the care setting as – which eventually becomes a task for the humans, in absence of actual social capabilities of the robots. Here, in the analysis of care practice, his concept of “algorithmic care” (see chapter 2) becomes productive, in questioning whether the ideas and operationalizations of efficiency and standardization meet the diverse and complex faceted actual care settings.

Although findings like robot design’s failure to account for the tactile and emotional dimensions of care work (e.g. in the (non-)use of the lifting device) have been brought forward earlier and elsewhere, Wright’s critique is still appropriate since robotics and its relations to *genba* have not yet changed enough to address it. In the chapter on Paro's integration into the care environment (p. 102–107), Wright connects to the body of work on affective technologies and the dangers of commodification of human communication and relations. Here, his background in Asian Studies and knowledge of Japan adds rich context to the discussion, when e.g. discussing the role of *iyashi* (relaxation) and *keicho* (active listening) as therapeutic responses to Japan's social and mental health crises. Paro is positioned within this context as a product that embodies the commercialization of affective interaction, offering a simplified, commodified form of therapy that can be scaled and replicated.

### **Summary**

The book is a profitable read for everybody thinking about the relationship of proposed technical solutions in explicitly social contexts, and to dispel some persistent illusions about robots’ capabilities and the state of Japanese “Robot Kingdom”. Although the focus of the book is Japan, the conflict presented between the promise of solutions and its fractures in application can be generalized to the worldwide proposition of "technological solutions" for social, economic, and political problems. Moreover, robotics and robots are worldwide endeavours despite all cultural peculiarities, and none of the machines and principles described are exclusive to Japan.

The sites of Wright's studies and his conclusions are very instructive and suitable to the issue at hand, and his book is timely and needed. The analytical figure of “algorithmic care” is productive in describing the contradictions between plannable machine interactions and the unplanned structures of interactions in the ‘actual site’ of residential care, but it also harbours

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<sup>2</sup> From a perspective sensitive to colonialism, the use of the term has been criticized, and human-computer interaction scholars from Africa called to reflect more carefully on its use (Ssozi-Mugarura, F., Reitmaier, T., Venter, A., & Blake, E. (2016, November). Enough with 'In-The-Wild'. AfriCHI '16: Proceedings of the First African Conference on Human Computer Interaction. 182–186. <https://doi.org/10.1145/2998581.2998601>)

the danger of essentialism: When discussing the transformation of social relations through the use of healthcare technologies, the opposition between cold technology and warm care should be avoided, because ethnographic analysis show that it does not hold, as Moser and Ingoll (2009) pointed out. There are different relations between people and technologies (and people) within different use practices, allowing different affective and social relations and dichotomous categories such as medical versus social problems or warm versus cold care reproduce assumptions of the enabling solutionist discourse rather than offering an analytical instrument to criticize it.

Two key implications will remain with the reader after reading this thoughtfully and compactly compiled text. Firstly, Wright's book is an antidote to the seemingly "open-ended quality of robots" (p. 149). The book unpacks how the engineer's and research policy notion, that robots *will* become cheaper, smarter, and more reliable is part of an overarching imaginary – and consequently believe – in a future, "which does not currently, and may never, exist" (ibid.). The most valuable lesson for everybody focussing on the improvement of the fit of such technologies for actual use is the critical role of staff in the process of design and adoption of care robots: While the promised robot solution focusses on the older adults and the macro perspective of whole national economies, the knowledge, attitudes and practices of the care workers are still dramatically under-researched and under-valued in care robotics.

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