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a Commentary**

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Emotions and Automation in a High-Tech Workplace: a Commentary

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Abstract

In a recent article, Madelaine Ley evaluates the future of work, specifically robotised workplaces, via the lens of care ethics. Like many proponents of care ethics, Ley draws on the approach and its emphasis on relationality to understand ethical action necessary for worker wellbeing. Her paper aims to fill a research gap by shifting away from the traditional contexts in which care ethics is employed, i.e., health and care contexts and instead appropriates the approach to tackle the sociotechnicity of robotics and how caring should be integrated into non-traditional contexts. This paper comments on that of Ley's, making the case that the author does, in fact, achieve this end while still leaving areas of potential future research open to but-tressing the approach she presents.

Keywords Automation · Work · Capabilities approach · Applied ethics

To begin, the author is evident in their goals with the paper. They start with an explicit orientation for why care ethics is adopted, an overt commitment to the relational approach to ethics, and a marked objective for filling a clear research gap. Likewise, I am impressed that not only does Ley begin by explaining the state-of-the-art, but she also illustrates what is currently missing in the literature and how her paper is comparatively unique; the shift away from traditional contexts where care ethics is discussed, and a clear shift towards its application in contexts of industrial and retail workplaces is undoubtedly unique and worthwhile to explore. I agree wholeheartedly on this point, given that industrial settings, in particular, have not been privy to exposure to these more relational approaches to ethics and wellbeing. Similarly, they adopt the excellent practice of outlining for the reader what to expect in terms of the organisation of their paper. In general, Ley provides not only what

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is an interesting and vital paper but also a model for how academic papers, more broadly, should be formulated.

In Part I, Ley tries to give a vision of the industry. She makes clear and concise work of what the industry currently looks like, and I commend her attempt to lay a path for the near future. Likewise, she notes that the academic discourse on the future of work and workplace robotisation needs to be more connected to the experience of workers; this is a lacuna that certainly needs to be addressed head-on. For example, there is clearly something instinctively or intuitively egregious in the scenario Ley presents concerning the Amazon workplace, and it has an instinctive character of violating human dignity. Still, it is unclear what dignity is in this case (or more broadly) beyond an emotivist sense of repulsion. Here, even a basic exploration of what such dignity is would help us to demarcate better when such dignity is violated and to what degree.

Still, there are some areas where the author can undoubtedly buttress their argument here. There is a growing discourse within the engineering ethics literature, particularly within the scholarship that discusses Industry 4.0 and Industry 5.0, that does not frame robotisation and digitalisation as coming at the opportunity cost of workers or human labour, nor only as supplementary.¹ Recent work has explored how we should frame these evolutions in workplace technologies as enhancements for workers rather than substitutes. This is echoed further within the AI Ethics and ‘design for values’ literature, particularly by Ben Schneiderman (2022), who argues that what is required is a shift in the metaphors we use when discussing these AI/robotics technologies. Instead of social robots, for example, we frame them as ‘supertools’ that empower, enhance, and augment existing workers’ capabilities and increase, rather than extricate, our abilities to be responsible and held accountable for such systems. Along with Simone Natale, I have also explored how this could be applied to communicative AI and emerging challenges (Umbrello & Natale, 2023). Interested readers are encouraged to explore and expand on the discussion of automated technologies in the workplace or, at the very least, look at how the literature more broadly has adopted a framing of workplace technology as substitutive rather than enhancing and complementary to human workers. These latter reframings allow us to shift narratives away from those of the more pessimistic technological unemployment metaphors and towards ones where workers are empowered and supported by their workplace technologies. I think here Ley does a great job of situating her piece within this burgeoning literature.

Similarly, the paper’s opening section highlights many of the issues (which are accurate and concerning) of robotics in the workplace. Ley does an excellent job of framing the discourse this way, particularly within warehouse and retail domains. Still, what was generally missing here were countervailing cases where workplace robotic/AI presence gives the opposite, beneficial environments. The developing literature, admittedly emerging more from the engineering and manufacturing domain

¹ I would recommend that the reader take a close look at the papers published in the special issue of *Applied Sciences*, on ‘Smart Manufacturing Systems for Industry 5.0: Challenges and Opportunities’ (https://www.mdpi.com/journal/applsci/special_issues/Industry_5_0).

rather than engineering ethics, on Industry 4.0/5.0 is an excellent font for such examples. Future researchers looking to explore and expand on Ley's work could then show why the former is more prevalent and therefore merits ethical and pragmatic considerations and amelioration measures if we arrive at the wellbeing they later argue is possible.

In Part II, Ley does an excellent job bringing the reader back to the thesis of her paper as well as reiterating the importance of their line of argumentation, i.e., that the domains that seem less likely to consider care ethics when considering robotisation are not only necessary domains to consider care ethics for worker wellbeing, but, if successful, demonstrate how care ethics provides a potent framework for augmenting worker wellbeing in all domains of work beyond those of direct care (i.e., hospital, clinics). Here, she does a thorough job of synthesising foundational and contemporary approaches to conceptualising care ethics. Presenting the evolution of the approach sets up the third, arguably more philosophical, part of the paper with a logical flow that can be clearly and easily deconstructed. I particularly appreciated how, in Sect. 2.2, Ley goes further into how care ethics has been operationalised into the design of AI systems. This situates the paper within the broader trend in applied ethics, commonly called the 'design turn in applied ethics' (see Van den Hoven, 2017). Ley briefly discusses how Care Centered Value-Sensitive Design (CCVSD) was founded and why. Not only this, but Ley also further strengthened this part by presenting recent expansions to CCVSD, highlighting where CCVSD may be lacking (i.e., see Umbrello et al., 2021; Pirni et al., 2021). This reinforced her goal of expanding care ethics into a 'broader theoretical argument', as she explicitly aims to do.

Part III is undoubtedly where most of the heavy philosophical lifting is done. Here, Ley draws on the philosophical insights of the foundational and growing literature on relationality (e.g., the work of Mark Coeckelbergh and Sven Nyholm). The author also does a good job concerning the limits of how stakeholders are identified when discussing care ethics. Here, she rightly notes that there is work within value-sensitive design and the 'design for values' literature more broadly, that do discuss various stakeholder types (i.e., direct and indirect), which aim to capture quite large and nuanced stakeholder groups which certainly include the stakeholder they argue are missing (i.e., front-line workers, managers, maintenance workers, engineers, technical and non-technical researchers) and even beyond such as nonhuman animals and the environment. In fact, she cites Friedman and Hendry (2019)² in section II, drawing from this source which identifies strategies for identifying and legitimating various and traditionally sidelined stakeholder communities. There have been many articles published on this from 2018 to 2022 alone. Ley does a monumental job of delving into these to extract what I think is most beneficial to her paper concerning stakeholder identification techniques and how legitimating stakeholders is undertaken.

Beyond this, Ley further identifies some critical gaps concerning care that need to be addressed. Although authors have admittedly tried to identify and fill these

² Please note that there is an error in the citation of this reference in the reference list. The correct title is *Value Sensitive Design: Shaping Technology with Moral Imagination*.

gaps in the past, they do so via a very narrow and siloed context that excludes robotics/AI and is couched only within more clear domains where care ethics is discussed. Ley here does an excellent job of framing these issues concerning robotics and AI and does so *outside* the traditional contexts of care. Interestingly enough, she draws on the CCVSD framework again as a potential solution to address these challenges barring specific changes/additions to the approach. She harnesses a host of literature that is undoubtedly foundational within relational ethics and design, i.e., via the capabilities approach. However, unfortunately, she does not give fair treatment to either. If there are apparent lacunae in either or both, then she needs to explain more clearly why they are lacunae and, ideally, how they can be addressed in their approach. More poignantly, Ley makes the argument that ontology is fundamentally relational and thus concludes and argues for a relational ethics that maps onto that ontology, effectively falling into the is/ought distinction trap. Still, to be fair in claiming that CCVSD is potentially fruitful in addressing some of these concerns, Ley does draw on some of the recently published literature, which claims to do precisely that as well, couching her argument in an ongoing debate.

Finally, I see increasable value in this paper, and I think that the author does an excellent job of being extremely descriptive, comprehensive, and clear in how they discuss the extant literature, particularly on care ethics. Ley gives effective treatment to the extant literature that is currently being debated concerning the potential solutions to the emergent ethical issues concerning care in the workplace (i.e., CCVSD, capabilities approach, and perhaps VSD more broadly). By doing this, Ley properly situates her paper within the literature and demonstrates how it is comparatively unique on all fronts.

Overall, this paper will undoubtedly prove foundational in inserting care ethics into domains where such an approach is usually not associated but, as the author demonstrates, is undoubtedly needed and demonstrably efficacious.

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Author Contribution SU was the sole contributor in writing and preparing this manuscript.

Declarations

Ethics Approval The study includes no human or animal subjects that require ethical approval—SU.

Consent to Participate The study includes no subjects who needed to give consent to participate—SU.

Consent for Publication This study includes no human participant who needed to give consent to publish—SU.

Competing Interests The author declares no competing interests.

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