

[Home](#) / [Archives](#) / [Vol. 13 No. 1 \(2025\)](#) / [Focus](#)

Technoethics and Situated Cognition: The Case of Exoskeletons

Leonardo Massantini

Università di Pisa

<http://orcid.org/0000-0003-3317-0535>

Alberto Pirni

Paolo Dario

DOI: <https://doi.org/10.4454/philing.v13i1.597>


Keywords: Exoskeletons, Mind Invasion, Body Invasion, Acceptability, Iterative Design

Abstract

This paper offers a theoretical and ethical framework capable of describing the effects that exoskeletons (i.e., an emerging type of wearable technology) can have on users, especially on their embodiment. After the introduction, in section two we explain what exoskeletons are with a focus on occupational - or industrial - exoskeletons. We then present the major opportunities and threats that these technologies present from an ethical point of view, especially in the occupational sector. In section three we further address the ethical challenges of exoskeletons, especially whether these technologies are *morally acceptable* or simply *individually accepted* by relying on the theories of *situated cognition* and *affectivity*, which we integrate by introducing the concept of *body invasion*, derived from Slaby's *mind invasion*. By changing the embodiment of workers, wearable technologies such as exoskeletons might impose cognitive and affective repertoires that might go against the fulfillment of goals the user would otherwise choose for herself. Finally, we show why iterative design is not enough to address the ethical challenges posed by exoskeletons especially when individual acceptance and moral acceptability are conflated.

philing

philosophical inquiries

 XIII, 1-2025

Edizioni ETS



Published

2025-07-23

Issue

[Vol. 13 No. 1 \(2025\)](#)

Section

Focus

License

– Authors are allowed to upload their papers **immediately** after publication on reserved access institutional repositories or archives required for research metrics and evaluation. Authors ought to include publication references (journal title, volume, issue and pages, article DOI when available, URL to journal website or journal issue).

Issue files are only available for download by subscription for 18 months from the date of publication. After the embargo period, the content becomes open access and is subject to the Creative Commons Generic Licence version 4.0 (cc. By 4.0). Copyright in individual articles passes to the publisher on the date of publication of the article and reverts to the authors at the end of the embargo period.

If the author wishes to request immediate Open Access publication of his/her contribution, without waiting for the end of the embargo period, a fee of EUR 500.00 will be charged. To make this type of request, please contact our administrative office (amministrazione@edizioniets.com) and the journal manager (journals@edizioniets.com), indicating: the title of the article, the details of the file to which it belongs, the details of the person to whom the invoice should be addressed, the existence of any research funding.

Similar Articles

- Matthias Haase, [Tenenbaum on Instrumental Reason and the End of Procrastination](#), [Philosophical Inquiries: Vol. 11 No. 1 \(2023\)](#).
- Chrisoula Andreou, [Instrumental Rationality and Proceeding Acceptably over Time](#), [Philosophical Inquiries: Vol. 11 No. 1 \(2023\)](#).
- John Brunero, [The Extended Theory of Instrumental Rationality and Means-Ends Coherence](#), [Philosophical Inquiries: Vol. 11 No. 1 \(2023\)](#).
- Sarah K. Paul, [Rational Powers and Inaction](#), [Philosophical Inquiries: Vol. 11 No. 1 \(2023\)](#).
- Erasmus Mayr, [The Action-Guidingness of Rational Principles and the Problem of our own Imperfections](#), [Philosophical Inquiries: Vol. 11 No. 1 \(2023\)](#).

- Sergio Tenenbaum, [Précis of Rational Powers in Action](#), [Philosophical Inquiries: Vol. 11 No. 1 \(2023\)](#).
- Sergio Tenenbaum, [Responses to Critics](#), [Philosophical Inquiries: Vol. 11 No. 1 \(2023\)](#).

You may also [start an advanced similarity search](#) for this article.

Current Issue



Language

[English](#)

[Italiano](#)

Subscription

Login to access subscriber-only resources.

Platform &
workflow by
OJS / PKP