Assistive devices and relational autonomy:
Reconceptualizing palaeopathological experiences of impairment

Katherine E. Brent[1], Sydney Quinn Chizmeshya[2], & Rebecca J. Gilmour[3]

[1] University of Toronto Department of Anthropology
[2] Memorial University of Newfoundland Division of Biomedical Sciences
[3] Mount Royal University Department of Sociology & Anthropology

K. Brent email: katie.brent@mail.utoronto.ca
S.Q. Chizmeshya email: sqchizmeshya@mun.ca

Introduction

Bioarchaeological research on care, disability, and impairment has increased in recent years, often with a focus on interpreting experiences of individuals with diverse physical abilities (e.g., Málaga & Makowski, 2019; Zhou et al. 2021; Kozakaitė et al., 2022; Byrnes & Muller 2017). Physical impairments can be related to pathological or congenital conditions, and can be acquired throughout life through trauma, infectious disease, or even as a result of aging.

People adapt to and live with physical impairments in different ways, some choosing to adopt ambulatory aids and prosthetic devices. These aids have been used throughout history and are documented in a variety of archaeological and historic contexts (see Figure 1). However, due to the diverse nature of impairment and adaptive strategies, further theorization is needed to help bioarchaeologists better interpret these individualized experiences in archaeological contexts.

We argue for the use of **'relational autonomy'** as a **lens to inform palaeopathological interpretations** of people who used assistive devices, such as crutches and prosthetic limbs.
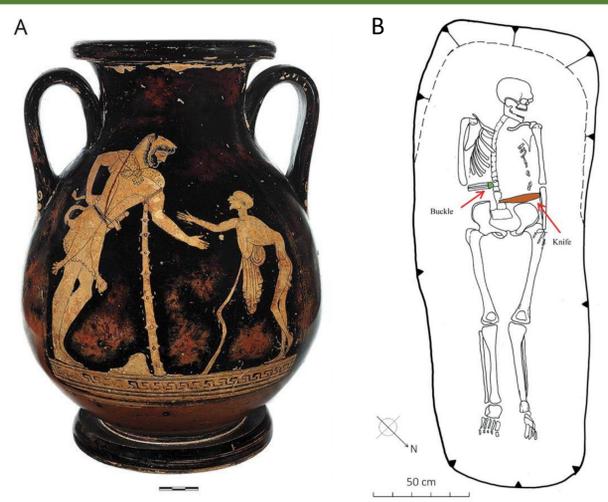

Figure 1: Assistive devices are documented in the past through in several ways, such as through art (e.g. Figure 1A, Varotto et al., 2019) and through archaeological contexts (e.g. as a grave good, as seen associated with skeletal remains in Figure 1B, Micarelli et al., 2018)

By incorporating a relational autonomy perspective in palaeopathological interpretations, we **aim** to:

Frame assistive devices as influential on individual experiences of impairment

Using relational autonomy, we can begin to see assistive devices as both functional and socially-constructed. These devices can impact how someone experiences impairment personally, as well as on a social level.

Establish assistive device users as active agents in their health

Assistive device users are not simply passive recipients of 'care', but people who are making decisions about their own health and adaptive responses.

Recognizing that people make choices to use, or not use an assistive device due to sociocultural pressures add greater nuance to interpretations of impairment experiences and will help paleopathologists see these devices as more than purely functional.

Acknowledge that social frameworks impact individual experiences (of assistive devices)

Relational autonomy allows us to identify social variables that influence choices to use, or not use assistive devices. Specifically, these aids may act to increase or decrease social stigma and/or lead to changes in status.

Ensure that care is not over-estimated

Considering how assistive technologies might alter one's social standing either positively or negatively, and how decisions to use or not use these interventions can be affected by one's sociocultural milieu, will help palaeopathologists better conceptualize care and disability.

Assistive device use may not count as 'care', but rather represent an extension of agency over one's own status and condition.

Relational Autonomy

A feminist theoretical concept used in contemporary clinical literature and medical ethics that asserts:

"social norms and institutions, cultural practices, and social relationships… shap[e] the beliefs, desires, and attitudes of agents"

(Mackenzie & Stoljar, 2000, p. 22)

Assistive Devices/Technologies:

- Products and technologies typically used to mitigate functional limitations (Institute of Medicine, 1991). They are designed to facilitate independence and enhance one's ability to participate in day-to-day activities (WHO, 2018).
  - Commonly include ambulatory or manipulative aids such as canes, wheelchairs, and prostheses.
- Various examples of historic and archaeological cases, including foot prostheses (e.g. Binder *et al.* 2016), arm prostheses (e.g. Micarelli *et al.* 2018), and walking aids such as canes (e.g. Viva *et al.* 2021) (Figure 1).

Relational Autonomy:

- Individuals with impairments are influenced through both overt restriction of their behaviour and actions and by social constructs that limit the availability and viability of options (Mackenzie & Stoljar, 2000).
- Through this lens, autonomy is dependent not only on the individual, but also on their social context (Mackenzie & Stoljar, 2000).
- Autonomy can be exercised based on:
  - one's own abilities,
  - how these abilities are enhanced or constrained by the social surroundings.
- Relational autonomy can be constitutive (intrinsic) or causal (extrinsic):
  - *Constitutive* (intrinsic): one's own self-perceptions and capacities
    - i.e. social factors affect one's perceptions of their own autonomy (Baumann, 2008)
  - *Causal* (extrinsic): how an individual's social standing and environment can either expand or limit their autonomy (Mackenzie & Stoljar, 2000)
    - i.e. social factors affect one's autonomy in and of itself (Baumann, 2008)

References

For the full reference list, please visit the QR code or:
https://sites.google.com/view/katiebrent/ppa-conference-citations

Applying Relational Autonomy to Assistive Device Use in the Bioarchaeological Record

Evidence for crutch and prosthetic use is documented in the skeleton by authors such as Knüsel & Göggel (1993) and Belcastro & Mariotti (2000) (crutch use); and Binder et al. (2016), Micarelli et al. (2018), and Lazenby & Pfeiffer (1993) (prosthetic limbs). Investigations into the bioarchaeology of disability and care are also expanding (e.g., Byrnes & Muller, 2017; Tilley & Schrenk, 2017). The intersection of these pathological and theoretical interests suggests palaeopathologists should continue to cultivate lenses, such as relational autonomy, that can help them better understand how one's personal and social environment can affect their experiences of assistive devices.

Assistive devices can be **objects of independence** that help an individual navigate their socially-constructed world by mitigating functional limitations and reducing exclusionary physical/social barriers, facilitating participation, and potentially enhancing one's lifestyle.

However, social perceptions of assistive devices can **positively** *or* **negatively** impact one's experience (see examples in Table 1).

Table 1: Assistive devices viewed using relational autonomy:

Positively impact…	Negatively impact…
…by increasing agency through elevated social status OR by reducing stigma resulting from physical difference	…by limiting autonomy through stigmatisation
Prostheses can be **status-elevating** symbols. Some prostheses in antiquity were used as symbols of wealth and status rather than as strictly medically assistive tools (Draycott, 2021). **Example 1:** Etruscan and Italian dental prostheses are said to have made it *more difficult* to eat, but they were such a symbol of status that some even removed their own teeth to adopt the devices (Turfa & Becker, 2018). **Example 2:** Despite having no functional ability, **prosthetic eyes and noses** have been used historically to allow a user to conform to typical morphology and disguise their physical difference (Draycott, 2018). For example, after the First World War, people with facial trauma often wore facial prosthetics to *mitigate aspects of stigma* (Biernoff, 2011).	Modern assistive device use can be stigmatised, to the point where an individual may **choose not to use an assistive device at all** (e.g. Parette & Scherer, 2004). **Example 1:** In 19th century Britain and North America, some **prostheses** were *stigmatized as deceitful*, in the case of a hidden or anatomically correct prosthesis. This stigma sometimes led to a lack of social mobility for lower-class citizens (Sweet, 2022). **Example 2:** In the middle ages, the use of devices such as **crutches** could be viewed with skepticism and disdain, given their association with beggars *feigning impairment* (e.g. see 'The Book of Vagabonds and Beggars', 1528)

Conclusions & Recommendations

Relational autonomy will improve the **representation of individuals** with impairments as **active agents** in their past communities and **contribute to critical discourse in the bioarchaeology of disability and care**.

- Relational autonomy can provide palaeopathologists with a lens to further discuss the experiences of individuals with impairments within their social and physical environments.
- Interpreting assistive device use using relational autonomy can facilitate discussion of the ways that assistive technologies both supplement and void (help and hinder) direct care. This lens also reminds researchers to explore the social attitudes toward these assistive technologies.
- As this lens develops, we recommend that relational autonomy approaches be applied in bioarchaeological contexts with documented or detailed contextual knowledge about societal perceptions of impairment.

Relational autonomy reminds us that **both individual and social agents influence impairment experiences and the use of assistive devices**.