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Puppeteering as a metaphor for unpacking power in participatory action research on climate change and health

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ABSTRACT

The health impacts of climate change are distributed inequitably, with marginalized communities typically facing the direst consequences. However, the concerns of the marginalized remain comparatively invisible in research, policy and practice. Participatory action research (PAR) has the potential to centre these concerns, but due to unequal power relations among research participants, the approaches often fall short of their emancipatory ideals. To unpack how power influences the dynamics of representation in PAR, this paper presents an analytical framework using the metaphor of 'puppeteering'. Puppeteering is a metaphor for how a researcher-activist resonates and catalyses both the voices (ventriloquism) and actions (marionetting) of a marginalized community. Two questions and continuums are central to the framework. First, *who* and *where* the puppeteer is (insider and outsider agents). Second, *what* puppeteering is (action and research; radical and managerial). Examples from climate change and health research provide illustrations and contextualizations throughout. A key complication for applying PAR to address the health impacts of climate change is that for marginalized communities, climate change typically remains a few layers removed from the determinants of health. The community's priorities may be at odds with a research and action agenda framed in terms of climate change and health.

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1. Introduction

Human health is defined as 'a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity' (World Health Organization [WHO], 1946). The effects of climate change on people's health and well-being are well-documented, ranging from the creeping effects of worsening nutrition to mortality in storms or heat waves exacerbated by climate change (Watts et al., 2019, 2020). The health impacts across and within societies are distributed inequitably (Marmot, 2018), and climate change further influences – and typically exacerbates – pre-existing inequities (e.g. McCoy & Watts, 2014). People who are marginalized within societies with respect to resources, livelihood sources, ethnicity, gender and age are likelier than others to experience both direct (e.g. by heat waves, air pollution, infections and flooding) and indirect (e.g. through increasing food prices and livelihood precarity) consequences of climate change on health (e.g. Natarajan et al., 2019; Paavola, 2017). The health and well-being of marginalized populations are typically strained also by the precarity of livelihoods and housing situations, presence of everyday violence and lack of access to food and water (e.g. Wisner et al., 2004), and climate change typically exacerbates these pre-existing vulnerabilities (Watts et al., 2019, 2020).

Numerous transnational and national initiatives have aimed at reducing the adverse impacts of climate change on

health (Watts et al., 2019, 2020). Addressing climate change requires policies and initiatives by various actors across a range of scales (Paavola, 2019) intersecting with multiscale health determinants (Marmot, 2018). At the local level, initiatives to address climate change's impacts on health are diverse, ranging from techno-scientific fixes that hope to steer people's behaviour (e.g. Amsterdam providing free wifi for passers-by when air quality is good, see Kaika, 2017) to combinations of lower-tech approaches using existing local assets (Patrick & Minckas, 2019). Some solutions strive to address climate change and improve health and well-being simultaneously, such as encouraging urban cycling to reduce greenhouse gas emissions and improve physical health (Watts et al., 2019, 2020). While interventions such as these arguably promote positive changes related to climate change and health, what remains unclear is the extent to which these interventions are driven by community needs, interests and goals as opposed to being guided by top-down priorities.

Marginalized communities' health is disproportionately affected by climate change, but the risks they face can remain comparatively invisible in research and policy (Parry et al., 2019). Many initiatives aimed at reducing the adverse impacts of climate change stop short of addressing the concerns of the marginalized, at times as a result of strategic neglect rather than due to ignorance (Parry et al., 2019). Participatory action

research (PAR) approaches are portrayed as an antidote, one that can bring the concerns of the marginalized to the fore of research and practice, but academic approaches to PAR often fall short of their ideals (e.g. Le De et al., 2015). This paper contributes to the debate on the potential and complications of PAR to bring forth and to address the concerns of marginalized communities in climate change and health contexts. The paper presents an analytical framework for unpacking power in participatory development studies, focusing on the intersection of climate change and health. The framework allows conceptualizing and evaluating how power influences the dynamics of representation in PAR. It should, however, not be seen as a prescriptive template for academic best practice, as that would be antithetical to the participatory principles of the approaches.

PAR approaches have been adopted in the context of climate change (e.g. Figueiredo & Perkins, 2013; Kerr et al., 2018) and health (e.g. Minckas et al., 2020) in order to highlight local concerns, interests and priorities, particularly of marginalized groups. Within this work, PAR strives to contribute to direct social change, beyond the indirect intellectual dividends of an extractive research process. A key promise of PAR is that marginalized communities, the people facing the (adverse) consequences of a phenomenon, shape knowledge about and actions responding to the phenomenon (Fals Borda, 2013).

Despite PAR's ideals, there are severe limitations to its practical application. The nature of *participation* for both knowledge production and action unfolding can be questionable, particularly in research involving marginalized communities and outside researchers (Le De et al., 2015). While marginalized people might be encouraged to speak freely, they might correctly feel that their voices mean nothing, especially when they do not influence broader policies or actions (see e.g. Pugh, 2014). Additionally, under the veil of 'empowerment', their voices might get co-opted to support an agenda of those already in power rather than their own interests (Jordan, 2009).

The metaphor of 'ventriloquism' deployed by de Sousa Santos (2014) describes how the marginalized might resort to others with more power in and across societies to echo their voices. The reverse can also occur as those in positions of power may (intentionally or not) instrumentalize or co-opt the process of participation to reinforce a hegemonic agenda rather than to transform it (Cooke & Kothari, 2001). Ventriloquism refers to the art of speaking in a way that the sound made by the ventriloquist would seem to come from another source – often a so-called 'dummy' or puppet (Encyclopaedia Britannica, n.d.). Since 'ventriloquism' is associated with knowledge verbalization, this paper on PAR expands the scope more widely to 'puppeteering' which encompasses both ventriloquism (related to speaking) and 'marionetting' (related to action). Puppeteering conveys the idea that the voices and actions of the marginalized might be channelled and catalysed by a 'puppeteer', be they an individual academic researcher or a collective within a certain community.

The next section of the paper provides background to PAR and introduces the notion of puppeteering that forms the backbone of the analytical framework developed in the

paper. Section 3 debates the meaning of 'marginalized community' before diving into two points regarding community-based puppeteering, asking (1) *who* and *where* is the puppeteer, and (2) *what* is puppeteering. Examples from climate change and health research provide illustrations and contextualization throughout. The analytical framework builds iteratively on existing literature and typologies outlining the differences among PAR approaches (e.g. Cordeiro et al., 2017; Fals Borda, 2006) while providing an overview of PAR applications in the nexus of climate change, health and development. The argument is embedded in academic literature, and there is an emphasis on the role of external agents involved in puppeteering. Furthermore, while the paper reviews a continuum of perspectives for PAR, it foregrounds the more radical perspectives that accentuate the emancipatory ideals of the methodology. Section 4 concludes the paper.

2. Exploring participatory action research through 'puppeteering'

The origins of action research in the UK and North America can be traced to Lewin's social psychology work in the 1940s (Adelman, 1993; Lewin, 1946). Inspired by global movements for social change in the 1960s and 1970s, the Brazilian critical educator and philosopher Paulo Freire (2018 [1968]) laid the foundations for *participatory* action research aimed at social justice, and Colombian sociologist Orlando Fals Borda coined the term and galvanized the movement by being one of the organizers of the Cartagena Conference on Action Research in 1977. PAR was conceived as an 'experiential methodology [which] implies the acquisition of serious and reliable knowledge upon which to construct power, or countervailing power, for the poor, oppressed and exploited groups and social classes – the grassroots – and for their authentic organizations and movement' (Fals Borda 1991, p. 3). PAR reimagines the driving purpose behind grassroots-driven research, to 'strive for a more even distribution of power-knowledge' (Fals Borda, 1991, p. 6) and support marginalized, oppressed and subordinated people in gaining actionable knowledge about their life conditions (Fals Borda, 2006) by engaging with power. PAR challenges the constructed dichotomies between the research subject and object, as well as theory and practice (Fals Borda, 2006).

Over the decades, PAR approaches – and participatory research more broadly – have proliferated. With this has come a schism of sorts, where traditional, managerial approaches to (participatory) action research and more radical approaches have emerged (Cordeiro et al., 2017). The former is understood as a problem-solving method involving democratic participation for pursuing social action while also maintaining the status quo of a given institutional context, while the latter is a methodology mobilized against the elitist societal domination of the oppressed (Cordeiro et al., 2017). Within PAR specifically, the perspectives range from technical applications (e.g. Participatory Rural Appraisal, see Chambers, 1994) to theoretical sophistication (e.g. Constructivist Research) (Fals Borda, 2006, p. 33). PAR approaches and methodologies initially considered radical have now been

adopted by a wide variety of actors, including mainstream institutions such as the World Bank (e.g. Jordan, 2009).

Participatory methods are not without critique. The ‘tyranny of participation’ refers to the tendency to include only the most vulnerable and already overburdened groups in research. In turn, such approaches may actually increase time, effort, and resource demands placed on the most vulnerable groups, and the lack of participation of powerful groups may render social change unlikely (Cooke & Kothari, 2001). The instrumentalization of the approach and the co-option of marginalized people’s agency and action (Kapoor & Jordan, 2009) could be argued to have shattered the romantic illusion of a Freirean intellectual that is credibly engaged with the grassroots.

The concept of ventriloquism has been used to criticize the ways in which researchers mobilize the voices of the marginalized under the guise of participatory methods to legitimize the development agendas of top-down actors (Cooke & Kothari, 2001). This is often coupled with transferring responsibility to the marginalized to enact the ‘transformation’ desired by the top-down actors (Cooke & Kothari, 2001) while utilizing the resources of the marginalized. In this context, ventriloquism (and the process of getting there and enacting it, ventriloquization) can be understood as a critical, perhaps damning, assessment of an outsider’s co-option of the voices of the marginalized in the production of knowledge-power. Yet, ventriloquism is not universally problematic and can be argued to be part and parcel of all PAR projects involving an outsider researcher. Sousa Santos (2014) lays out a manifesto, channeling the voices of social movements with which he has been working and stating, ‘[s]ince only a small number of us have voice, we resort to ventriloquists’ (p. 2).

The paper employs the metaphor of ‘puppeteering’ to capture the ways in which dynamics of representation unfold throughout the entire PAR process, covering knowledge, action and their intersection. ‘Puppeteering’ encompasses both ventriloquism (speaking), as well as marionetting (action). The duality of and connections between knowledge and action are captured in the notion of ‘praxis’ for which Freire’s understanding involves both reflection and action for change (Glass, 2001). PAR research is typically described as a spiral where change is pursued through what are in theory consecutive, but in practice typically overlapping and iterative, steps of planning, acting, observing and reflecting (Kemmis et al., 2014). Each iteration homes in on both the knowledge produced and communicated and the action taken. Puppeteering is present throughout all phases of research, from setting the research agenda to communicating results and taking action, rather than being a discrete event.

While some strands of PAR might aspire to flatten hierarchies between researchers and participants, power dynamics are significantly present in all research across disciplines. Typically, power refers to the ability of people, as individuals or communities, to further their interests and wishes, even if that might hamper the interests of others (Giddens, 1997). Certain views of power focus on decision-making and action in the formal political arena. A fundamental shortcoming is that these simplistic conceptualizations emphasize the end result of how social hierarchies visibly and publicly manifest.

Yet, power is a fundamental part of interactions between people that does not just manifest as decisions are being made, and power relations shape the entire production of knowledge through to actions and long-term trajectories of social change. Within PAR, power permeates how researchers together with communities produce knowledge and plan for and enact social change.

Each variation of PAR might be most compatible with a distinct perspective of power. Giddens’ notion of power is helpful in navigating diverse perspectives of PAR. According to Giddens (2012 [1984], p. 159) ‘power is the capacity to achieve outcomes’ and ‘power is not, as such, an obstacle to freedom or emancipation but is their very medium’. Even if power remains connected to structures of domination, it is not inherently oppressive, nor necessarily connected to specific interests. Power is not hegemonically held or wielded; even in societies that feature dramatically inequitable structures, the marginalized and oppressed may exercise power through less visible forms, such as non-compliance, non-cooperation, feigned ignorance and other forms of resistance (Scott, 1985).

The objective of radical PAR, in particular, involves marginalized communities (1) making themselves heard (potentially through a puppeteer) and (2) transforming identified structures of oppression (often to align with their expressed or *real* interests). Power and action are connected: action is rooted in an agent’s ability to make a difference, and action involves the power *to* transform (cf. Giddens, 2012 [1984]). Power, thus, should not be mainly seen as power ‘over’, but particularly ‘power to’ (or ‘not to’). This paper focuses on how the marginalized community together *with* the puppeteer might be able to transform structures from the standpoint of the marginalized. A key issue is that external agents who may be mobilized as puppeteers are likely to have access to various types of resources, and the involvement of the puppeteer can reinforce or transform the structures of domination. In radical PAR, the marginalized community and the puppeteer would enter into a ‘power with’ relationship with each other to transform structures together (see Ponc et al., 2010). That is, the aim of puppeteering could be to transform structures of domination for and by the marginalized community while striving to overcome asymmetrical power relations between the ‘puppeteer’ and the marginalized community.

3. Community-based puppeteering for and from the marginalized

This section explores puppeteering in PAR as an analytical framework in the context of climate change’s (adverse) health impacts in marginalized communities. To begin with, the section debates the meaning of ‘marginalized community’ in the context of climate change and health. This is followed by the development of the analytical framework on puppeteering. Subsection 3.2 focuses on the *who* and *where* of puppeteering, tracing the positionality of the puppeteer from insider to outsider. Subsection 3.3 concerns *what* of puppeteering, exploring the continuum from ventriloquism to marionetting. The analytical framework makes the dynamics of representation in PAR visible and unpacks how power influences them. The

framework is adopted in the context of climate change and health, with examples from climate change and health research providing illustrations and contextualizations throughout. While this section reviews the continuum of perspectives on PAR, it foregrounds the more radical ones, accentuating the emancipatory ideals of the methodology.

3.1. *Marginalized communities in research on climate change and health*

Marginalization in this paper refers to the structural and historically constructed inequities that also tend to correspond with a heightened risk of adverse health impacts related to climate change. ‘Community’ refers to a specific group of people facing, directly or indirectly, similar adverse consequences of climate change on health. Defining community in this manner leaves space for various ways of defining a marginalized community. It could be a rather narrow and technical construct (e.g. research defining the marginalized community as people who have been diagnosed with a specific disease in a healthcare system) or it could be a highly inclusive, but more nebulous notion (e.g. all people in a certain region where climate change exacerbates floods leading to direct and indirect consequences).

This paper evokes both ‘community’ and ‘local’ while being mindful of their critiques. ‘Community’ has been criticized for branding the work of researchers and practitioners as people-centred, even when the ‘people’ involved do not ‘represent a consistent body of individuals sharing the same ideas, perceptions and interests’ (Titz et al., 2018, p. 2). Communities are neither homogenous nor singular units (Titz et al., 2018; Walmsley, 2006) and may not even share geographic boundaries. They comprise networks of groups, households and individuals with uneven power relations, and may or may not feature overlapping interests. Power currents run through communities, on and deep below the surface, shaping their histories, realities and potential futures.

The complicated politics of imagining and constructing a community and locality are perhaps precisely what make ‘community’ a useful concept. Examining the politics of ‘community’ helps to identify ways in which the boundaries between those who belong, and those who do not, are reproduced (see Yuval-Davis, 2006). Participation of communities in PAR can be depicted as a continuum, from collective action and self-mobilization by the ‘community’, to co-option, tokenism and passive participation (see Kinson et al., 2010).

In the context of climate change and health, a narrow way to outline and approach a marginalized community is to approach people affected by a disease or infirmity influenced by climate change (e.g. Rohr et al., 2011; Watts et al., 2019, 2020). For instance, without action, the transmission season and geographical spread of vector-borne diseases are likely to grow, as weather conditions for arthropod vectors (e.g. mosquitoes) become suitable for longer periods of time and species spread to new areas (e.g. Caminade et al., 2019). However, climate change also influences non-communicable diseases, such as chronic kidney disease of non-traditional origin (CKDnt).

CKDnt has been found to plague agricultural workers in hot regions such as Mesoamerica (Herrera et al., 2014). For instance, in El Salvador, it used to be the second most common

cause of death in males over the age of 18 (Herrera et al., 2014). Recent research has found that the combination of heavy labour (e.g. high-intensity agriculture and manual work), hot weather (Herrera et al., 2014), and the use of agrochemicals in farming are likely to have an impact on prevalence rates of CKDnt (Chapman et al., 2019). Rising average temperatures attributed to climate change are likely to increase the prevalence of the disease in many regions (Johnson et al., 2019).

If PAR processes start from the concerns of those individuals impacted by a specific disease, such as CKDnt, the puppeteer is likely to select the community based on demographic characteristics (e.g. young, male Mesoamerican farmers) or based on CKDnt diagnoses. The farming communities affected by CKDnt are typically faced with a variety of other stressors impacting their health and well-being, such as land grabs and other major threats to their livelihoods, some of which are even conducted in the name of addressing climate change (Navas et al., 2018). Compared to people working in industrial agriculture, subsistence farmers are not as affected by CKDnt, presumably due to having better control over their working conditions (Wesseling et al., 2020). This implies that land grabs that push subsistence farmers off their land indirectly may also increase the prevalence of CKDnt.

Another way to outline a marginalized community in the context of climate change and health is to focus on geographic location so that the marginalized community is connected to a place. For CKDnt, the community might therefore be El Salvador or Mesoamerica – or only farmers and agricultural workers in these places.

3.2. *From insider to outsider: who and where is the puppeteer?*

In PAR, the puppeteer resonates with and catalyses both the voices and actions of a marginalized community. Building on the notion of marginalized ‘community’, this subsection discusses who and where the puppeteer is as part of unpacking power. The ‘puppeteer’ is not a reference to a fixed identity, but a role assumed by, or projected upon, an agent in the context of PAR. The puppeteer can be a collective, such as a team of outsider researchers, or a special interest group within a certain community. Furthermore, the positionality of the puppeteer can range fairly fluidly from an insider to an outsider (Le De et al., 2015). Hence, while in the following the puppeteer is labelled principally as either an insider or an outsider, this labelling depicts rather a continuum, than a binary.

3.2.1. *Insider puppeteer*

In PAR, insider insight is considered valuable for both research and action (Barton, 1997). Particularly for the more radical perspectives of PAR, the mere involvement of marginalized communities is not enough. The whole research process should be rooted in their concerns and strive for them to become ‘agents of social and political transformation aimed at creating just, peaceful, and democratic societies’ (Jordan, 2009, p. 17). These perspectives highlight the capacity of people ‘living and working in particular settings’ to conduct research and change practice (Kemmis et al., 2014, p. 4). An insider puppeteer, here, would be characterized as someone

who shares (some of) the consequences of the phenomenon studied and acted upon. That is, an insider puppeteer here would be one that faces direct or indirect consequences of climate change on health. Even an outsider puppeteer is likely to rely heavily on insiders as key collaborators that might help to identify and access the realities of a marginalized community (e.g. Jost et al., 2014). The degrees of being an insider puppeteer vary, as do the ways and levels in which the collaboration occurs. For instance, Mercer et al. (2012) note that better integration of local (insider) and external (outsider) *knowledge* would support ecosystem-based (climate change) adaptation in the Caribbean. While the small island states in question share many of the health threats associated with climate change, the local conditions differ, and local knowledge is key to understanding them (Mercer et al., 2012).

Insiders may be native to the community and its concerns (e.g. a member of an indigenous community, see Weber-Pillwax, 2009) or they could be formerly outsiders who 'become' part of the community (e.g. becoming a step-parent, see Berger, 2015). Insiders are thought to be better than outsiders at navigating the local conditions and social relations to ascertain what is relevant and genuine. As 'communities' are not homogenous entities, insider puppeteers are likely to inhabit a positionality within the community related to their gender, ethnicity, age, class, location of the home and/or another characteristic. Similarly, as with an outsider puppeteer, the positionality of the puppeteer is likely to influence not only what is witnessed and echoed, but also who participates in a PAR process, and how (Mayorga-Gallo & Hordge-Freeman, 2017). For instance, making sure women are included in a study on climate change's impacts on agriculture supports understanding the perspective of women that head farms and serve as agricultural labour (see Jost et al., 2014). Nevertheless, the participation of 'women' as a group may do little to ensure that women of diverse socioeconomic backgrounds, for example, and holding different relative positions of power are included and to what extent their participation is more than a form of tokenism.

Some PAR projects have been initiated by marginalized communities. For instance, they might be stirred into research and action to counter harmful representations of their community (e.g. Cahill & Torre, 2010). Indigenous (e.g. Smith, 2012) and feminist (e.g. Harding, 1993) methodologies and epistemologies highlight the importance of depicting phenomena from various standpoints, which implies that more knowledge needs to be produced from the standpoint of the marginalized. What is common to these different approaches to research is that they typically strive to bring marginalized accounts to the fore, on the terms of those marginalized. Insider perspectives have been criticized for potentially being interpreted through the intimate experiences of the puppeteer and not being faithful to the broader experiences of the group. Such criticisms are often poorly founded on the expectation of supposed neutrality, where andro- and Eurocentrism are the supposedly neutral norm, and research from other standpoints (e.g. feminist, racialized) is not considered neutral (Harding, 1995).

Despite the desirability of insider puppeteering, in academic research, in particular, the insider puppeteer is not a

frequent figure. Even when a puppeteer shares some of the consequences of a phenomenon, they might not be perceived as an insider by other research participants. For instance, perceived class status connected to higher education, among other things, can make an academic researcher be perceived as an outsider (Mayorga-Gallo & Hordge-Freeman, 2016). Meanwhile, some public health research projects might employ community researchers who might also struggle to strike a balance between being a community member and conducting research – potentially for an institution that has historically participated in marginalizing the community (e.g. people who are discriminated against due to their ethnicity or perceived (dis)ability, Baum, 2016). The dominance of English as the language of research is further likely to distance 'local' realities from the intellectual domain of the academic puppeteer (e.g. Whitehand, 2005). This is where, in the continuum from insider to outsider, the latter becomes emphasized.

Where a marginalized community is defined as those individuals impacted by a specific disease, such as CKDnt, the insider puppeteer would likely be someone directly impacted by kidney disease or close to someone who is. PAR might therefore revolve urgently around questions of CKDnt treatment and prevention. Meanwhile, an outsider might approach the marginalized community as those with a formal or informal diagnosis, and the framing of research and action objectives would likely differ from that of the insider puppeteer.

3.2.2. Outsider puppeteer

Ideally in PAR, no (power) hierarchies would exist between the researcher and the researched: all involved would be research participants, rather than being split into subjects and objects of a research process (Fals Borda, 2006, 2013). The social relations between research participants would be symmetrical, and characterized by *vivencia* (Fals Borda, 2006), or 'immersion in field conditions and identification with local communities that combine research and action' (Fals Borda, 1996, p. 81). Yet, despite PAR's emphasis on studying phenomena from the perspective of the practitioner or community member, the notion of a researcher as an objective spectator of social life still lingers (e.g. Kemmis, 2012).

In de Sousa Santos' (2014) metaphor of ventriloquism, a relatively privileged intellectual-activist – or researcher-activist – is the ventriloquist who echoes the voices of a marginalized community. The outsider puppeteer, in the context of PAR, might be characterized as someone who does not share the consequences of the phenomenon studied and acted upon. For instance, the outsider puppeteer might remain insulated from many of the likely impacts of climate change due to their physical location, or as a courtesy of being part of the generation that will not live to see the direst impacts (Wood, 1995). Even in the context of more radical social movements, the activists with the most mobility and transnational influence are typically those who do not experience the direst local consequences of the phenomena that they strive to address (e.g. Lopes de Souza, 2016). From the perspective of PAR, this detachment is problematic (Kemmis et al., 2014) but common.

An outsider puppeteer might be able to mobilize the local voices and actions of marginalized people for an extra-local audience (e.g. policy sphere including governmental and

non-governmental organizations, see Le De et al., 2015), potentially raising consciousness and bringing in needed resources. Furthermore, as many issues of marginalization are connected to histories, policies and decisions unravelling on various scales, one should avoid fixating only on the local level, as that may problematically reinforce the centrality and responsibility of 'community' that has fairly little power over the processes on other scales (Freudenberg & Tsui, 2013). Effective and more radical PAR might thus benefit from an outsider puppeteer being able to navigate various places and connect processes, but it is important that knowledge (and action) brought in from the outside be made 'glocal' and reinvented locally, rather than imposed on communities (Lopes de Souza, 2016).

A range of issues still crops up with the outsider puppeteer. Particularly when professional academic researchers with formal education are involved in a PAR process, the ideals of symmetrical power relations are severely tested, if not thrown out. Academic research can be an inherently extractive process aiming at exploitable and publishable data, with objectives and methods pre-determined (Le De et al., 2013). Also, the researcher studying climate change and health, ultimately, is often steered to serve the interests of decision-makers, academia and an abstract notion of science (e.g. Cvitanovic et al., 2019) over those formulated by the marginalized communities.

An outside researcher who approaches a community necessarily engages with and becomes a part of the power dynamics at play. They introduce outside resources (Grove, 2013), agendas and methodologies (Fox, 2013) and can shift the positions of power within a community. As a ventriloquist, what an outsider sees and communicates regarding a phenomenon may not resonate with the experience of an insider (Berger, 2015). In PAR, the stakes go beyond misrepresenting a phenomenon, into catalysing action that does not address the local key concerns (e.g. Le De et al., 2015; Ruszczyk, 2018), or that the very communities wish to resist (e.g. Fox, 2013). Where this action is then also implemented by an outsider, the marionetting falls into the same traps as the ventriloquism.

In conducting PAR, the perceived positionality of the puppeteer on the insider-outsider continuum influences how their credibility and approachability are perceived by the marginalized community, and what is shared with the puppeteer (Mayorga-Gallo & Hordge-Freeman, 2017). The power hierarchies and potential past oppression that associate with the (perceived) class, race and gender of the outside puppeteer can make the marginalized cautious of what they are sharing (Mayorga-Gallo & Hordge-Freeman, 2017). The history and background of research institutions and their potential abuses towards marginalized communities are further likely to undermine mutual trust (Christopher et al., 2008). When an outsider researcher is not considered as problematic, but rather as being acceptably incompetent, this can allow for an outsider to access colloquial everyday understandings of a marginalized community (Mayorga-Gallo & Hordge-Freeman, 2017). However, this can also mask the power the puppeteer has over knowledge produced from that encounter (Mayorga-Gallo & Hordge-Freeman, 2017).

The 'professionalism' and 'expertize' of the outsider puppeteer, be they an academic or an 'expert' of another sort, is

further likely to build a barrier between the marginalized communities and the puppeteer (e.g. Mitlin, 2013). In many collaborations and contexts, the modern 'professional' represents a dominant social class or ethnicity (e.g. Mitlin, 2013; Ranta, 2018). The professionals prescribe the human needs of others, such as those related to health, and cater to them (Illich, 1978). Professionalism may also smuggle in a hierarchy of knowledge, where the content and process of knowledge production by the marginalized may be branded as 'rumours' to be discredited or omitted (see Coast & Fox, 2015). Gossip, for instance, used to refer to female friendships, but after centuries of purposeful pacification of female resistance, it has been branded as the talk of those who do not possess the ability for rational discourse, nor access to the right kind of knowledge and information (Federici, 2018). The expectation of professionalism and an emphasis on certain notions of research quality are likely to hinder meaningful participation in a research project, from setting a research agenda to analysing data (Nind, 2011). In the context of climate change influencing aspects of health, for instance, the emphasis on 'modern' technological knowledge may be problematically prioritized with respect to local insider knowledge (Mercer et al., 2012).

Where the outsider's positionality may come with both strengths and weaknesses in terms of conducting participatory research (ventriloquism), the issues are slightly different when it comes to puppeteering and PAR (and so including marionetting). Where it may be acceptable for a *researcher* to be perceived as acceptably ignorant if one is willing to learn (Mayorga-Gallo & Hordge-Freeman, 2017), the role of an *activist* engaged in marionetting is likely to be more challenging still. While it may be enough for research participants to assume that a ventriloquist is ostensibly harmless, to actually engage in action following a puppeteer's vision requires a higher level of trust that is unlikely to be built over a short period of time (see Christopher et al., 2008). Yet, local collaborators or research participants should not be thought of as naïve, and their resistance can co-exist with apparent (co-opted) participation (see e.g. Grove, 2013). Participants may artfully steer the puppeteer in spaces of interaction, including through 'tactical mimicry' to gain access to external resources (Dey & Teasdale, 2016).

Major issues with outsider puppeteering are illustrated where the marginalized community is defined in terms of a specific geographic location. Many countries in sub-Saharan Africa are small greenhouse gas emitters on a global scale, but their land-use related emissions are seen as comparatively significant (see e.g. Henry et al., 2011). This has motivated transnational initiatives for addressing climate change in the region, such as the Reducing Emissions from Deforestation and Forest Degradation scheme (REDD+), yet such initiatives can curb local populations' access to land and further threaten food security and hence health (Hunsberger et al., 2017). The exclusion of locals from the ecosystems that they depend upon echoes the colonial and post-colonial legacy of conservation, where locals were blamed for environmental degradation on the basis of misleading research, and their access and ownership rights to their cultural landscape ecosystems were compromised (Haller & Zingerli, 2020). If PAR is to be deployed in the context of such initiatives, there is a risk that the

participation of locals is co-opted by an outsider puppeteer observing managerially the delivery of the project following pre-determined technical parameters (see Henry et al., 2011). Furthermore, outsider puppeteering, while potentially justified by both the *causes* and *consequences* of climate change in a particular region, may end up implicitly defining the marginalized community as the planet or humanity. That is, the participation, the action, and the research undertaken locally might not ultimately serve the needs, interests, and goals of those facing locally the consequences of climate change on health.

Even initiatives targeting primarily the local *consequences* of climate change on food security and health can be problematic. For instance, in Mozambique, the government-led relocation of farmers away from floodplains may be attempting to ‘protect’ them from extreme weather, but is also likely to lead to a loss of independence as subsistence farming gives way to commercial agriculture (Arnall et al., 2013). Managerial perspectives to address the local consequences of climate change may deliver partial and short-term solutions (e.g. relocation of smallholder farmers or piecemeal food ‘aid’ projects) that may exacerbate the health issues the marginalized communities are facing in the long term. However, more successful initiatives are also found, some of which are more radical. For instance, ecosystem-based adaptation and agroecology approaches can help centre the local knowledge and needs of the farmers as the marginalized community (Kerr et al., 2018; Mercer et al., 2014). In such contexts, the insider puppeteers could be, for instance, a group of local farmers.

3.3. From ventriloquism to marionetting: what is puppeteering?

PAR aspires to combine knowledge creation (i.e. research) with changing the structural conditions within which particular communities are embedded (i.e. action). ‘Puppeteering’ captures this duality of research/reflection and action, and their non-linear interplay, incorporating the continuum between ventriloquism and marionetting. These metaphors allow for unpacking how power influences the dynamics of representation both in research and action.

The ‘ventriloquism’ part of puppeteering for PAR encompasses the ways in which a puppeteer catalyses research and captures the voices of the marginalized to repackage them for different audiences. This implies that the puppeteer can gather fragments of narratives (‘collecting data’), weave them into stories with a singular voice (‘analysis’ and ‘write up’) and re-tell those stories within a broader narrative (‘dissemination’). The iterative research-reflection-action methods employed in PAR often borrow from ethnographic traditions, including participant observation, in-depth interviews and focus groups, but can also be integrated with a range of quantitative methods (Baum, 2006). The publication venues can combine academic journals, policy briefs, social and other public media and art, any of which might or might not challenge the power structures within which the researcher and the marginalized sit. The dissemination of research results back to the communities studied (and studied with) can be thought of as ‘giving back’ to those who have given time and resources to the project (see Tubaro, *in press*). Theatre, for

instance, is thought to be a particularly powerful way of ‘giving back’ (Gallagher, 2007), and it can also be effective in challenging and changing oppressive power structures (see Boal, 1993). However, the resulting dramatization may ‘betray’ the participants’ own perspectives and accounts (Gallagher, 2007).

Marionetting refers to how action is channelled by the puppeteer. Depending on the type of PAR, action can (1) be seen to culminate in a solution suggested by a puppeteer that adheres to the boundaries of the status quo (the traditional, managerial approach), or (2) encompass a more forward-looking, joint action that arises from the marginalized becoming conscious of the inequitable structural conditions that they are immersed in (the radical approach) (Cordeiro et al., 2017). In the latter case, the status quo is being disrupted, while in the former case, the status quo remains. Thus, actions are unlikely to address inequities in significant ways, as those with power and resources would have to give consent (Cordeiro et al., 2017).

A managerial PAR project typically has utilitarian tendencies, striving to fix organizational issues locally (Cordeiro et al., 2017). In these instances, the act of marionetting can resemble business consulting. The action agenda is ultimately set and typically resourced by those with (more) power over the context, with the puppeteer ultimately advancing these interests. While in a commercial organization, marionetting might be as instrumental as studying and supporting the adoption of new tools (e.g. Tüzün et al., 2019) or business models (e.g. Feger & Mermet, 2020), parallels can also be found in the context of research on climate change and health. For instance, the puppeteer may wish to engage the community in a predefined activity (e.g. drafting a citizens’ climate change bill to put pressure on the government (Hall et al., 2010) or declaring a ‘climate emergency’) or in an externally steered project (e.g. a project on climate change and agriculture where the researcher assembles the research team, with selected locals playing the roles of note-takers and facilitators (Jost et al., 2014)). In such cases, marionetting implies that the puppeteers steer the marginalized towards actions that ultimately benefit the (relative) élites within or outside the community. This is unlikely to address the priority concerns faced by the marginalized and hence constitutes a typical ‘power over’ situation.

A more radical approach to (P)AR would strive to redistribute power and/or resources in and across societies to the marginalized. This type of marionetting might encompass some or all of the following, where the puppeteer may strive to:

- (1) bring resources that are perceived as missing from a marginalized community, ranging from organizing logistics and childcare to allow for participation in PAR (Dickson & Green, 2001) to attracting funding and providing specific expertise (Shames et al., 2016),
- (2) activate existing capacities within the community for a purpose, or build capacities through training and education for action (e.g. environmental non-governmental organizations raising consciousness, see Figueiredo & Perkins, 2013), and
- (3) encourage or support the community to make a claim for a societal re-distribution of power, resources and rights

(e.g. European anarchists agitating for and supporting the organizing of workers in Latin America in nineteenth and twentieth centuries, see Lopes de Souza, 2016).

Each of the approaches has criticisms. Bringing in resources can be problematic if the resourcing is temporary, and the puppeteer (or their funder) decides how the resources are distributed and used. This may reinforce short-term reactive action over meaningful long-term change (e.g. when climate change adaptation is reactive ad-hoc fixes and does not support communities' full abilities (Pearce et al., 2011)). Even if certain types of external involvement have been rightly criticized for encouraging dependency and inhibiting local (political) agency (e.g. the presence of transnational actors in urban climate change adaptation in India (Chu, 2018)), these dependencies are typically historical products of extraction where the 'developed' world's health and well-being have been built on the resources extracted from the 'developing' one, rather than the other way around (Galeano, 1997; Hickel, 2017). This does not suggest avoiding consideration of how resources involved in PAR could be best used in a way that supports the marginalized community in the long term.

The paradigm of development has shifted along with neoliberalism, from structural change to building capacities and facilitating 'resilience' on local scales (Pugh, 2014). This paradigm shift is also reflected in policy and practice striving to address the consequences of climate change on health. Ideals of resilience can resonate with radical PAR in highlighting the capacities, agency (Brown & Westaway, 2011) and knowledges (Pretty, 2011) of marginalized people. Yet, resilience approaches have also been criticized for not addressing inequitable and marginalizing structural conditions (Chandler & Reid, 2016) and for giving marginalized people space to know only about the local, rather than wider approaches (e.g. Arora-Jonsson, 2016). This brings us to the third perspective of marionetting within radical PAR: supporting the marginalized community in making a claim for re-distribution of power, resources and rights. In such cases, the crucial question of marionetting concerns the responsibility that a puppeteer has for the (adverse) consequences faced by the marginalized as a result of engaging in a struggle.

Where a marginalized community comprises individuals impacted by a specific disease, such as CKDnt, managerial puppeteering might strive to find ways to provide dialysis to kidney patients. Meanwhile, radical puppeteering might strive to re-envision the whole dominant agricultural system that does not allow agricultural workers to work in ways that might prevent the disease's onset in the first place. The latter might also come with broader claims for health care. Here, the marginalized community is likely more motivated to seek action that could ease their lives and those in similar situations. This could involve anything from engaging in social movements (Schlosberg, 2019) or migrating as response to locally experienced weather and perceptions of climate change discourse (Parsons, 2018). While climate change is likely to increase the prevalence of the disease in the absence of other changes, its influence is a few layers

removed from the community's urgent concerns. Thus, even more radical and strategic puppeteering might not start with striving to address the sources of emissions that contribute to climate change, but would rather begin by pushing back on the post-colonial legacy of agricultural arrangements and contemporary land grabs.

Beyond the dilemmas of both ventriloquism and marionetting, a further dilemma relates to the balance between ventriloquism and marionetting. PAR's defining feature is to stimulate action alongside research, rather than hoping for policy impact after the science has been completed. Marionetting carries perhaps higher consequences for the research participants than ventriloquism (provided that research is conducted sensibly and sensitively). However, PAR might end up being a 'talk shop' with unfulfilled promises of action. For instance, workshops that are supposed to channel action and act as points of data collection (e.g. a planning workshop) might result only in the latter, with the planning action never being implemented (e.g. Pugh, 2014). The resources for carrying out PAR are too often underestimated, with particular weaknesses found in follow-up in terms of implementing, monitoring and evaluating (Martin & Sherington, 1997). Even if the research quality is examined – often through critiqued metrics of the neoliberal academe (Evans, 2016) – the quality or impact of the action is less likely to be evaluated in meaningful ways (Pain et al., 2015). Relatedly, the risks involved in conducting PAR for climate change and health are perceived to face the science, scientists, scientific institutions, decision-makers, related institutions and research funders (see e.g. Cvitanovic et al., 2019), rather than faced by the marginalized communities participating.

The tension between the need for radical action and the status quo of managerial research is illustrated by local food security being threatened by climate change in sub-Saharan Africa (Kotir, 2011). For PAR and puppeteering to be radical and address the underlying structures that marginalize smallholder farmers (Morton, 2007), the interrogation and action should be turned also towards the powerful actors of the transnational food system (see e.g. Ghadge et al., 2019) and large greenhouse gas emitters. The radical debate should revolve around how the fertile land is going to be governed equitably, and who the agricultural dividends belong to. Here, radical puppeteering could help echo the demands of those marginalized. The positionality of the puppeteer (on a continuum from insider to outsider) should not limit the scope and target of research and action in PAR, because, in theory, marginalized communities should be able to challenge policies through PAR. In practice, many transnational, national and regional institutional arrangements – such as the UN climate change policy, the power of large agricultural corporations and the European Union's tariffs on agricultural products – remain inaccessible to the most marginalized due to factors such as barriers of professionalism and using dominant languages. Thus, addressing climate change and health beyond the local scale is likely to imply an outsider puppeteer which might be able to navigate the domain of extra-local institutions. Radical action, however, is unlikely to unfold if the puppeteer is part of the establishment that needs changing.

4. Concluding discussion

This paper debated the potential and complications of PAR to bring forth and address the concerns of marginalized communities in the context of climate change and health. The analytical framework of the paper was expressed through the metaphor of ‘puppeteering’, and allowed for unpacking power in PAR. PAR, across its many variations, strives to construct knowledge and transform structures of domination with and for marginalized communities (cf. Fals Borda, 2013; Giddens, 2012 [1984]). A ‘puppeteer’, meanwhile, is a researcher-activist resonating and catalysing both the voices and actions of a marginalized community, typically for an audience beyond it (cf. Sousa Santos, 2014).

In theory, the puppeteer can be an insider or outsider, an individual or a collective, and an academic or a community member – or a combination of these. Considering possible extremes of these spectra, the (powerful) outsider puppeteer might be embedded in the very establishment that needs to be restructured, whilst the radical insider puppeteer might even risk their life in a struggle for needed change. Yet typically, in academic research at least, the puppeteer tends to be a professional (semi-)outsider, who does not share the direct consequences of the phenomenon being studied (see Le De et al., 2015; Mayorga-Gallo & Hordge-Freeman, 2017). Whether the puppeteer is an insider or not, PAR effectively assumes that the resources of the marginalized are mobilized by a puppeteer to change the structures of domination, and the marginalized may gain access to additional resources of various types (cf. Giddens, 2012 [1984]). These resources might carry the potential for addressing structures of domination on scales beyond the place where the effects are felt.

Climate change tends to exacerbate pre-existing inequities especially for health (Watts et al., 2019, 2020) with those most marginalized tending to be the most affected – yet, their concerns are typically side-lined in research, policy, and action (Parry et al., 2019). The PAR process carries the promise of joint research and action that is rooted in the concerns of marginalized communities, but as this paper has shown, the practice of PAR for climate change and health often falls short of the ideal. This paper has also shown how climate change likely remains a few layers removed from the variety of determinants that people attribute to their health and well-being, as illustrated by CKDnt in Mesoamerica and smallhold farmers in sub-Saharan Africa. In both examples, the impacts of climate change on health are tightly enmeshed with the land rights and labour conditions.

If a puppeteer’s framing and positionality are tied up with the climate change and health agenda (e.g. when a funder such as an aid agency only supports health projects related to climate change or insists that both climate change mitigation and adaptation are factored in, irrespective of the cause of the health issue), entering into a power-with relationship with the marginalized community might be challenging. This can be made more difficult by a managerial approach to PAR that might not achieve meaningful change, as solutions are likely to be piecemeal and to reinforce the status quo. Meanwhile, radical PAR might strive to transform the structures of domination through, for instance, ensuring the access

of the marginalized community to relevant resources (cf. Giddens, 2012 [1984]). This could mean prioritizing access to land and health care, or the right to migration, over issues of climate change. Entering into a radical PAR process and addressing the issues of power asymmetries in puppeteering nonetheless takes time, effort and resources from both the puppeteer and the community (e.g. Christopher et al., 2008). These are not always available.

The analytical framework on ‘puppeteering’ presented in this paper allows conceptualizing and evaluating how power influences the dynamics of representation in PAR in the context of climate change and health. For research and related action to contribute to addressing the actual key concerns of marginalized communities, they would ideally negotiate between addressing the consequences (local, immediate and practical health concerns related to climate change) and the causes (transnational, long-term processes leading to climate change, which are rooted in structures of domination reaching far beyond climate change only). Ventriloquism is needed to bring climate change-related health concerns of the marginalized onto the research and policy agenda in order to seek action, including through marionetting. Puppeteering in the context of climate change and health also underlines the importance of scalar thinking. While PAR emphasizes the involvement of marginalized communities in action and research, this does not mean that PAR research should only produce knowledge that has local implications (see Arora-Jonsson, 2016). However, PAR may not always be the most appropriate methodology to examine and act on the adverse impacts of climate change on health, as it can burden communities while doing little to tackle their priority concerns.

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