

## Reactivity as a tool in emancipatory activist research

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*Abstract: Reactivity is often seen as a problem in the human sciences. In this paper I argue that in emancipatory activist research, reactivity can be an important tool. I discuss one example of this: the aim of mental decolonisation in indigenous activist research. I argue that mental decolonisation can be understood as the act of replacing harmful looping effects with new, emancipatory ones.*

**Keywords:** social categories, social kinds, human kinds, reactivity, looping effects, emancipation, mental decolonisation, indigenous activist research

### 1. Introduction

In the call for papers for this special issue, reactivity is defined as "our reactions to being studied, classified, or intervened upon by science, reactions that in turn affect the science itself". Often it is taken to be something akin to a problem for the human sciences: reactivity appears to affect science in epistemically unwanted ways. In this paper, however, I will approach reactivity as a tool. I claim that it makes possible much of what is done in emancipatory activist research.

My claim seems fairly obvious. If, for instance, we think about a participatory project where researchers collaborate with members of some socially marginalised community, and one important aim of the whole enterprise is emancipation, then of course the researchers are trying to create reactions. And if they are successful, then the next project with the same community will be affected.

In this paper I will, however, focus on a less obvious and less direct example. I will talk about the so called looping effects of human kinds, and suggest that certain important aims in emancipatory activist research can be fruitfully analysed by using the notion. Looping effects are feedback effects where new claims (be they true or false) about a category such as women refugees, anorexia patients, or the Sámi affect the behaviour of those who fall in this category, and thus render previously valid knowledge about the category outdated. This is a prime example of reactivity. I will focus on indigenous activist research, and argue that

the aim of mental decolonisation, which is important in it as well as in postcolonial research more generally, can be understood as an attempt to replace socially harmful looping effects with emancipatory ones.

I will start with an overview of some recent ideas about social categories and social construction in the philosophy of science. I then introduce the idea of looping effects as a form of reactivity. After this I discuss indigenous activist research and the aim of mental decolonisation. Finally I argue that in practice, mental decolonisation can often be understood as an attempt to replace looping effects that activist researchers deem socially harmful with ones they believe are socially beneficial.

The example I discuss is an example of wanted reactivity; of intentionally created looping effects. This, I hope, can be interesting for philosophers of science, because reactivity is so often treated as a problem. I argue that it is not necessarily a problem in the human sciences, or even a neutral feature of the kinds studied. It can also be a socially and politically useful tool.

## 2. Social categories and social construction

Social categories or classifications – which often pick what philosophers call social kinds or human kinds – are central objects of inquiry in many fields in social science and the humanities. They include categories such as ethnic groups, genders, professions, or categories based on religious preference or social class. We use them to categorise ourselves and other people, and some of these categories are central for our identities.

Many social categories are clearly socially constructed. Professions, for instance, are contingent and exist due to human social activity. And even social categories whose metaphysics are contested, such as gender, can safely be said to be at least largely socially constructed (for analyses of the controversies, see Haslanger 2012; Ásta 2013). However, many social categories are surprisingly stable, and allow for some generalisations.

Compared to paradigmatic natural kinds such as chemical elements or biological species, members of important social categories have less properties in common, and they do not share these properties with as high a regularity. Nevertheless, they are something we identify, not something we just project onto the world, and their members share more than a few properties. (Hacking 1999; Godman 2021.)

Ethnic groups, genders, and other similar categories are not built from scratch, nor are they necessarily categories we can choose. For instance, I cannot choose my mother tongue, or my upbringing in a certain cultural context, and these things are central elements of my national identity in a way that is not entirely in my control. This has also been recognised by feminist scholars and philosophers when discussing categories such as gender or race.

Though such kinds are largely constructed, individuals cannot easily choose their gender or race, or more generally, whether they belong to some similar social category or not. Regardless of their own identifications, people are often gendered and racialised by others.

The way in which other people categorise me is an inescapable element of belonging to that category (Haslanger 2012). As Ásta (2013; 2015) has summarised, social constructionists about races, genders, and other similar kinds or categories agree that while the terms we use when talking about them refer to social phenomena, they refer to something real. Paula Moya (2000), for instance, has argued that we must acknowledge the reality of these constructed categories. And as Linda Alcoff (2006, 126) notes: "Racial and gendered identities are socially produced, and yet they are fundamental to our selves as knowing, feeling, and acting subjects." We cannot escape some categorisations. For example, people can be identified as members of an indigenous group, regardless of their own opinions about the issue, and the group can be represented in a certain way, regardless of what its members think. It is not enough to say that these human kinds are socially constructed – we need a better understanding of what this means.

Recent philosophical literature on the nature of social kinds or categories and their social construction offers three accounts that are useful to note in this paper.

First, Richard Boyd (1991; 1999) has offered an influential account of biological kinds as homeostatic property clusters that is useful also when examining social categories. Compared to the kinds studied in chemistry and physics, biological kinds such as species are much less stable. Boyd argues that this is because the mechanism that ensures that many properties reliably cluster within the population – common ancestry and the gene flow within a population – allow both variation and changes when the species evolves. Nevertheless, they also ensure a certain amount of regularity, thus allowing the generalisations we make of the species. The idea is that in any kind that permits generalisations, some internal or external mechanism guarantees that a set of properties clusters reliably within the kind. While Boyd has focused mostly on biological mechanisms, social and cultural mechanisms too can lead to fairly stable kinds or categories when the circumstances are appropriate and when many factors contribute to the strengthening of the category (Mallon 2003; 2016; Kuorikoski & Pöyhönen 2012).

Ruth Millikan (2000) and recently Marion Godman (2021) emphasise the difference between what Millikan calls eternal kinds (for instance, chemical elements) and historical kinds. In the latter the common properties among their members result from their shared environments and processes of historical transmission and reproduction. This makes the latter much more prone to change, as the processes of transmission and recombination are imperfect, and changes in the environment, for instance, can steer the development of a historical kind to a new direction. Godman (2021, 88) argues that ethnic groups are historical kinds, and the existence of groups such as the Sámi result largely from "the existence of cultural niches and social learning of language and other traits".

Recently, Samuli Reijula (2021) has drawn attention to how active, strategic boundary work can shape social categories, and lead to the emergence of new ones. For instance, to understand how the category of 'social worker' came to be, one must pay attention to how pre-existing features were "recruited" into the category: "the novel category emerged as a

consequence of (de-)emphasizing certain differences between people, drawing boundaries in new ways, and combining such operations to 'stitch' [...] various differences together into a category that had an inside and an outside" (Reijula 2021, 12325). The emergence and maintenance of social categories can, in other words, include even intentional drawing of new boundaries, borrowing, and recombination of properties.

To summarise, while social categories are much less uniform and more prone to change than many of the kinds studied in the natural sciences, and while they are mostly or entirely socially constructed, they often allow for some generalisations, and are not something people can always freely choose. Next, I will focus on one description of exactly how they are prone to change.

### 3. Looping effects and reactivity

Ian Hacking (1995; 1999) has argued that the type of social categories discussed in the previous section have a peculiar feature: new knowledge or new beliefs about them can lead to changes in the kind. He calls such changes looping effects of human kinds (or *interactive kinds*: categories whose members can react to new claims about the category). A looping effect is a feedback effect where the meaning of a classification and claims about the category in question affect the behaviour of those who fall under that classification. Researchers can produce new knowledge claims about people belonging to a category – for instance, the Sámi – and the new claims affect the behaviour of the people belonging to that category. Even relatively stable social categories can change as a result of new claims about the category. This, according to Hacking, makes the objects of human sciences into moving targets: the knowledge produced can become obsolete because it has induced changes in the studied category.

Such feedback mechanisms can take many forms, and they can lead to significant changes in social categories. They can be direct, when people for instance rebel against the claims scientists make, and change their behaviour accordingly – Hacking (1999, 131) mentions gay liberation as the most successful example of this type of interaction. But they can also be indirect, as when knowledge about a social category is used to plan practices and policies that lead to changes in the behaviour of members of that category. Hacking (1999, 32, 102–103) discusses women refugees and children diagnosed with ADHD as examples of kinds or categories where the members are not necessarily aware of the results of research, but change as a reaction to their institutional surroundings reflecting the knowledge scientists have produced. Looping effects of the latter type can, to a certain degree, resemble ways in which non-human biological kinds change as research leads to changes in their surroundings. Viruses, for example, change when new vaccines lead to new features gained through mutations becoming advantageous (Cooper 2004). It is the first type of looping

effect, where people understand the results of a study and this leads them to change their behaviour, that seems to be a form of reactivity specific to social categories.<sup>1</sup>

Hacking has been criticised for concentrating too much on the kind of looping effects that radically change social categories. As Ron Mallon (2003) has pointed out, looping effects can also stabilise social categories: new findings about a category can induce many members of the category to conform to the new claims. The effect is strengthened if the claims are repeated in media, books, museums, and reflected in institutions and conventions. As a result, members of the category start to resemble each other more than previously, as they conform to an idea of what it is to belong to that category. Mallon analyses social roles, such as as U.S. Senator or licensed bass fisherman, as homeostatic property clusters where an occupant of a specific role can act in certain ways precisely because they are in that particular social role. It is pertinent to my argument later that this kind of stabilisation can at times be socially regrettable: members of a category can conform to widespread ideas about that category even when it is harmful for them, particularly if these ideas are widely shared in their environment and reflected in social structures, institutions, and practices.

In addition to overemphasising change, Hacking can be argued to have overemphasised the unpredictability of looping effects. Many of Hacking's examples of very unpredictable looping effects are convincing; and Jessica Laimann (2020), for instance, has argued that the feedback mechanisms in looping effects can interact with each other, and with features of the social environment, in ways that make interactive kinds capricious and the changes resulting from looping effects hard to predict. However, there are good reasons to think that this is not always the case. In many fields in the social sciences where researchers know that their results will inform public policy, it is common for the researchers do their best to take into account the ways in which people are likely to react to the studies, as well as to the policy interventions and changes informed by the studies. While some looping effects may be surprising, it does not seem plausible that they would always be as unpredictable as Hacking seems to assume (see also Vesterinen 2020).

If 'reactivity' "refers to our reactions to being studied, classified, or intervened upon by science, reactions that in turn affect the science itself", as the call for papers for this special issue states, then looping effects are clear cases of reactivity. Social categories are moving targets that move as a result of being studied. People react to the knowledge researchers produce about them, and their reactions can lead to changes that make the knowledge outdated, thus affecting science.

As noted, reactivity is often seen as a problem in the human sciences. Looping effects, as well as many other forms of reactivity, call into question the reliability, lasting quality, and value of the knowledge we are able to gain about social categories. Even the call for papers for this special issue mentions the "threat that reactivity poses for the human sciences". However, I will now argue that for emancipatory activist research, looping effects are not

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<sup>1</sup> To be exact, this type of looping effects, *mutatis mutandis*, also happen in some cultural categories constituted or created by human behaviour, such as musical or literary genres (Kokkonen & Koskinen 2016).

first and foremost a problem – quite the contrary, as the aim in such research is to create change. Looping effects are a tool that can be used to create change, and therefore researchers can see them as socially and politically useful. Moreover, as I will argue, in such cases they are quite harmless epistemically: if the aim of research is to change the world, previous knowledge becoming obsolete is an expected and acceptable price to pay for success. To demonstrate my claims, I will now show how looping effects can be intentionally used in emancipatory activist research.

#### 4. Indigenous activist research

I will now focus on emancipatory activist research, using indigenous activist research as an example. First I briefly define activist research and emancipatory activist research, then I sketch an overview of indigenous activist research, focusing on Sámi indigenous activist research. In the next section, I examine more in detail the idea and aim of mental decolonisation that is important in indigenous activist research as well as in postcolonial research more generally.

By activist research I mean research that is motivated and influenced by some activist movement with social and political goals, and that often develops in tandem with such a movement. Examples range from environmental activism in climate science to feminist activism in gender studies and many other fields (Koskinen & Rolin 2019; Hauswald 2021). Charles Hale's often cited definition of activist research draws attention to activism that focuses on human suffering and social injustices. Activist research, he argues,

a) helps us better to understand the root causes of inequality, oppression, violence and related conditions of human suffering; b) is carried out, at each phase from conception through dissemination, in direct cooperation with an organized collective of people who themselves are subject to these conditions; c) is used, together with the people in question, to formulate strategies for transforming these conditions and to achieve the power necessary to make these strategies effective. (Hale 2001, 13.)

While I find Hale's definition too narrow, as it excludes forms of activist research that do not focus on human suffering – environmental activism, animal rights activism, or for instance the kind of urban activism that has influenced the new urbanism movement in architecture and urban planning – in the case of indigenous activist research it is apposite. As an integral part of the local and international political movements of indigenous peoples, indigenous activist research is a clear case of the kind of activist research Hale describes: it seeks to understand the root causes of the oppression of indigenous peoples, and to change the conditions that are found unsatisfactory.<sup>2</sup>

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<sup>2</sup> Activist research is often in line with ideas that have been presented in feminist philosophy of science and, more recently, in discussions about the roles that values can legitimately play in science. Standpoint epistemologists have argued that members of socially marginalised communities can be in an epistemically

In many cases emancipatory aims are central in activist research. This is not always the case; environmental activist research is not set out to emancipate any specific group of people. However, the likes of feminist activist research, disability activist research, and indigenous activist research are good examples of emancipatory activist research. Part of the change the activist research movements attempt to create is meant to happen in people: they are to be emancipated from ideas and habitual modes of behaviour instilled in them in their patriarchal, ableist, and colonial environments.

Indigenous activist research has emerged in tandem with an international political movement of indigenous peoples such as the Māori, the First Nations and the Sámi.<sup>3</sup> During the past few decades, it has found an institutional foothold particularly in programmes of postcolonial research, and in the young discipline of indigenous studies. It is multidisciplinary, as the research needed for creating the wanted change can range from issues studied in the educational sciences, historiography, or linguistics to ecology or jurisprudence. It is also highly transdisciplinary, emphasising participatory and collaborative methods and stakeholder involvement. Thus indigenous activist researchers often join forces with researchers from transdisciplinary, solution-oriented fields, such as sustainability science. (Smith 1999; Seurujärvi-Kari 2011; Johnson et al. 2016; Whyte 2019.)

Indigenous activist research builds typically on postcolonial thought, emphasising mental and political decolonisation, self-determination, rights including land rights and immaterial property rights, and the revival of indigenous languages and thought. Earlier research on indigenous peoples is often criticised either as clearly colonialist, or as focusing on questions that are relevant more for the ruling majority than for indigenous minorities. As a result, the knowledge produced has been about past traditions and history, or for instance about present social problems requiring social policy interventions. Indigenous activist researchers, by contrast, concentrate on questions that are important for the communities studied. Moreover, many indigenous activist researchers emphasise the value of indigenous traditional knowledge, and the importance of taking it into account in research, or even

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privileged position with regard to some issues precisely because they are socially marginalised: they can, for example, be aware of social mechanisms that remain invisible to people in socially more privileged positions. Therefore, the kind of collaboration with stakeholders that is central in activist research can be epistemically highly valuable, as it can reveal shortcomings in research and insufficiently studied issues. (Jaggar 2004; Wylie & Nelson 2007; Harding 2015.) Another argument for stakeholder involvement in science has often been presented in discussions about the role of values in science. Many philosophers agree today that non-epistemic values are unavoidable and even necessary in all stages of scientific research: scientists cannot ensure the value-freedom of the background assumptions on which their work is based (Longino 1990), in many fields value-laden concepts such as *oppression* or *well-being* are necessary (Dupré 2007; Alexandrova 2018), and scientists must take non-epistemic values into account when deciding whether they can make the inductive leap from evidence to the acceptance or rejection of a hypothesis (Rudner 1953; Douglas 2009). If value decisions are unavoidable in science, then people who will be affected by decisions informed by science should take part in the decisions (Douglas 2005; Elliott 2011; Alexandrova 2018). For philosophical analyses of the connections between stakeholder participation, activist research, and these philosophical discussions, see also Eigi 2017; Koskinen 2015; Koskinen & Rolin 2019; Wylie 2015.

<sup>3</sup> As these examples illustrate, the international movement is particularly strong in wealthy, Western countries. In many other countries, the opportunities for conducting indigenous activist research in academia are still quite thin on the ground.

using it in the development of new research methods. Traditional indigenous knowledge systems should be acknowledged "not simply as interesting objects of study (claims that some *believe* to be true) but as intellectual orientations that map out ways of discovering things about the world" (Garrouette 2003, 10). Members of indigenous communities should be seen as active participants in the production of knowledge. (Deloria 1969; Smith 1999; Seurujärvi-Kari 2011; Tsosie 2017; Virtanen, Olsen & Keskitalo 2021.)

## 5. Socially constructed categories in indigenous activist research

The social category of *indigenous people*, as well as categories such as *the Sámi*, are central in indigenous activist research. The boundaries of these categories, and the criteria used in boundary work, are often contested, as questions about land rights and other similar issues create political tensions. For instance in Finland, the slow ratification process of ILO Convention No. 169 that guarantees rights of indigenous peoples has given rise to heated political debates about who, on the individual level, should be considered Sámi (Lehtola 2015; Valkonen, Valkonen & Koivurova 2017). Currently Sámi scholars and activist researchers both take part in discussions about how to determine who should be considered Sámi, and study these debates.

Many Sámi scholars (including many activist researchers) take categories such as *indigenous people* or *the Sámi* to be socially constructed. Several of the Northern European nation-states went in the 18<sup>th</sup> and 19<sup>th</sup> centuries through a period of active nation-building, inspired by Romantic and Hegelian conceptions of *Volksgeist*. In the 1980s and the 1990s, this period was studied by constructionist historians (Hobsbawm & Ranger 1983; Hobsbawm 1992). Benedict Anderson (1983) famously called the nationalist projects the building of "imagined communities": the nation-builders succeeded in constructing representations that became central for the identities of many. Living in northern Europe, and being well acquainted with this constructionist literature, comparisons to earlier projects of nation-building come easily to Sámi scholars. The building of Sámi identities can be understood as the intentional and self-aware building of an imagined community (see e.g. Gaski 2008; Stordahl 2008; Seurujärvi-Kari 2010). Along similarly constructionist lines, Sanna Valkonen (2010) has drawn attention to the discursive and ethnopolitical practices that are used in the construction and maintenance of the Sámi as a culturally homogenous category. Acknowledging the constructed nature of categories such as *the Sámi* or *indigenous people* does not mean demanding that the categories be abandoned, or disregarding the ethnicised reality where they are used. Rather, it draws attention to the complex history and multiple uses of such notions, including colonial ones, and allows approaching them as "flexible and negotiable" (Valkonen, Valkonen & Koivurova 2017, 529).

The contested nature of such categories can be used to test and illustrate the philosophical discussions about social categories or human kinds. Even if the social category is constructed, an individual is not free to choose whether belonging to an indigenous community such as the Sámi is a part of their identity (Moya 2006; Alcoff 2006; Haslanger



2012). Clearly the social category of the Sámi is strengthened by complex social and institutional mechanisms that ensure that certain properties are reliably found within the Sámi population (Boyd 1991; 1999; Kuorikoski & Pöyhönen 2012; Mallon 2003; 2016). The category is also a historical kind, as the cluster of properties that are characteristic to it can be partly explained by its members living in a shared social and material environment, and by historical reproduction and transmission (Millikan 2000; Godman 2020). However, neither the homeostatic property cluster account nor the historical kinds account succeeds in adequately addressing the contested nature of such categories, nor the active, intentional boundary work involved – they do not offer analytic tools for properly analysing the political demand that indigenous communities have the right to determine who belong to the communities, and who do not. The recent work of Reijula (2021) on strategic boundary formation helps us to get a more complete idea of the social construction of social categories such as the Sámi.

I will now focus on one important aim in indigenous activist research, one that is closely connected to its emancipatory aims: mental decolonisation. I will argue that we can often analyse it as the attempt to intentionally replace socially harmful looping effects with socially beneficial ones.

## 6. Mental decolonisation and looping effects

Emancipatory aims such as self-determination and identity building are central in indigenous activist research (Smith 1999; Seurujärvi-Kari 2011). Decolonisation does not happen only through legislation and changes in policies, but through the revival of languages, education reforms, and through a rethinking of indigenous identities. In postcolonial thought, terms such as "mental decolonisation", "conceptual decolonisation", and "epistemic decolonisation" (Fanon 1961; Smith 1999; Wiredu 1998; Mitova 2020) capture a core emancipatory idea: freeing indigenous thought and indigenous identities from the socially harmful effects of colonial influences, and reviving wrongfully marginalised indigenous thought and knowledge as central aspects of indigenous identities. I will call this aim the aim of *mental decolonisation*. The notion captures the idea that colonised people, and in this case indigenous people, have adopted and internalised colonial attitudes and beliefs concerning their own people, and in consequence, about themselves, and it suggests both the dismantling of such colonial influences, and the use of indigenous thought and knowledge as a basis for decolonised identities.

I suggest that the idea of looping effects can be useful in the articulation of a constructionist understanding of mental decolonisation. Briefly put, mental decolonisation can be understood as the active, intentional replacement of socially harmful looping effects with new, socially more beneficial and emancipatory ones.

To understand my claim, let us now think about the social construction of such social categories as the Sámi. As noted, belonging to such a group is not something an individual

could simply choose. On the one hand, the community has criteria for who are acknowledged as members – even if such criteria can be subject to heated debates. On the other hand, outsiders also categorise individuals as members of an indigenous people, out of the control of the individuals being categorised. Therefore, belonging to an indigenous people can for many reasons be an unavoidable part of an individual's identity.

The way indigenous peoples have been represented in societies at large has for a very long time been in the hands of others. Not only representations in popular culture and mainstream media, but also scientific knowledge production concerning indigenous peoples, has been controlled by outsiders. Much of the earlier research has served either colonial interests, or later the interests of policymakers and administrators – and therefore it has often focused on social problems. Others have decided what is relevant, and what can and should be known about indigenous peoples. According to indigenous scholars and activist researchers, this has led to one-sided, often fairly dismal pictures of peoples whose pasts and traditions may be interesting, but whose present-day reality is troubled. And these images have been cemented in institutions and policies, thus shaping the environments in which indigenous communities live. (Smith 1999; Seurujärvi-Kari 2011; Valkonen 2014.)

In brief, the available research-based knowledge has previously mainly reinforced negative ideas about indigenous peoples. And the widespread popular representations, beliefs, and knowledge produced about indigenous peoples have influenced the ways in which people belonging to indigenous communities see and understand themselves. As Mallon (2003; 2016) has argued, especially when new claims about a social category are in line with previous conceptions, this can induce members of the kind to conform to those conceptions. As many indigenous activists and scholars argue, previous research about indigenous peoples has therefore been socially harmful. It has strengthened negative ideas about what it means to belong to an indigenous people – in other words, it has created socially harmful looping effects.

Indigenous activist research attempts to change the situation. Linda Tuhiwai Smith offers a concise description this aim:

Self-determination in a research agenda becomes something more than a political goal. It becomes a goal of social justice which is expressed through and across a wide range of psychological, social, cultural and economic terrains. It necessarily involves the processes of transformation, of decolonization, of healing and of mobilization as peoples. (Smith 1999, 116)

By shifting the focus from colonial and administrative interests to the needs and interests of indigenous communities, indigenous activist research completely changes the questions asked in research about indigenous peoples. Features of the communities' lives, environments, traditions, and languages that have been disregarded by earlier research are being studied. This changes the image of indigenous peoples that research sketches out.

It would be not only unnecessary but also ineffective to cut all ties to earlier research, despite its perceived problems. Familiar ideas can be helpful, as it should be clear that the new research is research about the same peoples as earlier. Some old findings and ideas can therefore be retained – for instance the idea of "indigeneity" (sometimes capitalised, in order to differentiate it from other uses – I follow Valkonen, Valkonen & Koivurova 2017 in not capitalising the word). The notion with all of its connotations has profoundly affected the identities of people thus classified. Instead of abandoning it because of its links to romantic ideas, it has been adopted and put to new uses.

In practice, the emancipatory aim of mental decolonisation means attempting to impact who the members of an indigenous people are: what they know about themselves as members of an indigenous people, how they see themselves, and what they do. By taking control of the production of knowledge about indigenous peoples, indigenous scholars can have an impact on the way in which both insiders and outsiders perceive members of indigenous communities, which in turn can lead to changes in policies, institutions, and identities. When they succeed, they have effectively replaced earlier, harmful looping effects with new, emancipatory ones.

#### 7. Reactivity as a tool: An example of intentionally created looping effects

I will now briefly illustrate how Sámi activist research has intentionally created looping effects, aiming at mental decolonisation. To do this, I will focus on the impact Sámi activist research has had on Sámi education and schooling.

One shared experience among indigenous peoples is that of forced assimilation through schooling. First Nations in Canada, the Māori in New Zealand, and the Sámi in the Nordic countries, among many other indigenous groups, have experienced children being taken away from their parents and sent to schools where their native tongues have often been forbidden, and where the explicit aim has been to assimilate the children in the majority culture. The experiences have been traumatising, if not deadly.<sup>4</sup> In the political movements stressing the importance of indigenous cultures and identities, one of the central aims has been to take control of the schooling and education of children and young members of the communities. The aim is "the establishment of systems of education which reflect, respect and embrace indigenous cultural values, philosophies and ideologies which have shaped, nurtured and sustained our people for tens of thousands of years" (Seurujärvi-Kari 1996, 171–172; see also Keskitalo 2012; Keskitalo, Määtä & Uusiautti 2012).

This aim covers all levels of education from early childhood education and primary schools to higher education and research. Similar education reforms initiated and carried out by indigenous communities, activists, politicians, and activist researchers can be observed in many countries. In Sápmi (the region traditionally inhabited by the Sámi), they have led, in

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<sup>4</sup> Recently, several mass graves of indigenous children who died in residential schools have been found in Canada (McKenzie 2021).

addition to reforms in primary and secondary education, to the emergence of several departments and programmes in universities, and the foundation of Sámi Allaskuvla (Sámi University College) in northern Norway (see Porsanger 2018; Porsanger & Seurujärvi-Kari 2021).

An illustrative example of these reforms are "language nests" developed to enhance the revitalisation of the Sámi languages. They are solutions used for offering language and culture immersion to pre-school-age Sámi children in daycare, and they are used today in many areas in Finland. They are based on similar solutions among the Māori and on continuous educational research, and designed for use in the actual, diverse and often complicated reality of Sámi teaching. In order for the language immersion to work – that is, in order for the language nests to bring closer the goal of strong and vital Sámi languages – it is important that children get support for also using the language at home, with friends, and later in school and the wider society. This is not obvious, as the Sámi languages are endangered. Collaboration with parents is therefore a central part of the functioning of the language nests. (Keskitalo, Määttä & Uusiautti 2014; Pasanen 2015; *Saamen kielten ja saamenkielisen opetuksen kehittämistyöryhmän raportti 2021.*)

The aim of the research on and development of the language nests is the revitalisation of the endangered Sámi languages. If we use the idea of looping effects to analyse how they function, we can identify several types of feedback effects. First, the aim is to create the kind of indirect feedback mechanisms Hacking (1999) describes: knowledge about the social categories of Sámi children is used to plan educational practices that lead to changes in the behaviour of members of that category: they become more prone to use Sámi languages in their daily lives. But in order for this to actually happen, the active participation of the parents is crucial. Knowledge about successes elsewhere, as well as research on language revival from indigenous perspectives in general, can inspire the parents to make the effort, and even to initiate and demand educational reforms in new areas. As research today focuses on the Sámi languages not as relics to be documented before they disappear, but as living languages with a valuable heritage, parents who become aware of this perspective and of the new knowledge can be inspired to use the languages more at home. In other words, direct looping effects, where people understand the knowledge researchers produce and change their behaviour accordingly, can also be important here.

The language nests have significantly increased the number of children using Sámi languages in their daily lives in Finland (*Saamen kielten ja saamenkielisen opetuksen kehittämistyöryhmän raportti 2021*). Subsequent educational research in the Sámi context builds on the changes that have been brought about, studying the results and developing new educational solutions (see e.g. Keskitalo & Sarivaara 2021). Earlier knowledge about Sámi children is no longer valid, as they speak the Sámi languages more than the previous generations used to, but it is unlikely that the researchers would find this epistemic cost a problem.

As this example illustrates, looping effects can be used as tools. While not fully predictable, looping effects are often enough predictable enough for it to be possible to intentionally create them to achieve social goals. I believe that this is both common and important in emancipatory activist research.

## 7. Conclusions

In the philosophy of science, reactivity is usually seen as a problem for the human sciences. Looping effects, for instance, seem to turn human kinds into moving targets, ones researchers working in the human sciences are doomed to chase. But looping effects are what make possible the kind of developments I have just described. Without reactivity, emancipatory research would be much more difficult than it is. This means that reactivity should not be seen as just a problem for the human sciences. In research that aims at social change, known types of processes that lead to social change are likely to be used as tools: as ways to reach the social goals the researchers strive for.

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