



**Identity Politics: Participatory Research and its Challenges  
Related to Social and Epistemic Control**

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## Identity politics: Participatory research and its challenges related to social and epistemic control

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## Identity politics: Participatory research and its challenges related to social and epistemic control

Over the past 20 years the participation of laypersons or representatives of civil society has become a guiding principle in processes of research and innovation. There is now a significant literature discussing collaboration between civil society organisations (CSOs) and researchers, with two interesting gaps. Firstly, the fact that research is mainly conducted within projects is often underestimated, although the format significantly frames knowledge production. Secondly, is that researchers and civil society organisations are closely related to their respective communities. We argue that this constellation — of project-related format, in combination with a strong relationship to communities — results in conflicts that express and lead to identity politics. The analysis is based on conceptual considerations as well as empirical findings, which were developed within the EC-funded CONSIDER project (2012–2015). It can be shown that identity politics is performed by socio-epistemic tactics, which are used to order the socially as well as epistemically hybrid space within projects. To explain differences in conflict intensity, we suggest the distinction between weakly tied and strongly tied identity politics. In sum, identity politics can be seen as one key element for social as well as epistemic control in transdisciplinary research projects.

Keywords: Identity politics, epistemic tactics, participatory research, research projects, transdisciplinarity

### 1. Introduction

The participation of laypersons or representatives of civil society in processes of research and innovation has acquired the character of a guiding principle. A milestone within this debate was an early study by Epstein (1996), pointing at the blurring of boundaries between science and society. Thereby, quite different “hybrid forums” of research (Callon et al. 2009) were evolving, indicating and provoking conflict about both the relevance of — and the demands on — knowledge. In the meantime, a vast number of studies examined the presence of non-academics in fields of (scientific)

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3 knowledge production (e.g., Brown et al. 2004; Shirk et al. 2012; Chilvers and Kearnes  
4  
5 2016; Lezaun et al. 2017). This presence may manifest as forms of mobilising for  
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7 knowledge-production, as in “upstream engagement” (e.g., Rogers-Hayden and Pidgeon  
8  
9 2007) or “citizen science” (e.g. Kimura and Kinchy 2019), to name two selected forms.  
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11 Alternatively, this may happen in forms of self-mobilising for knowledge-production, as  
12  
13 in conducting otherwise “undone science” (Frickel et al. 2010). Brian Wynne termed  
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15 this “invited” respective “uninvited” (self-inviting) forms of participation respectively  
16  
17 (Wynne 2008). Similar dynamics can be shown with regard to innovation processes,  
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19 where it is closely linked to the idea of open innovation (e.g., von Hippel 2005). One  
20  
21 highly important consideration, thereby, is that these participative activities typically go  
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23 along with processes of citizens becoming ‘formatted’ in specific ways and towards  
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25 selected role models, for example as ‘bare citizens’ (e.g., Braun and Schultz 2010) or  
26  
27 ‘users’ (e.g., Hyysalo et al. 2016).  
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33 These developments demand fresh scrutiny, especially (despite some relevant  
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35 difficulties in realising participation) with regard to the selection of forms of knowledge  
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37 seen as relevant (e.g., Bogner 2010), the often fragile and conflict-ridden interaction  
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39 between different actors and actor groups (e.g., Klenk and Meeham 2017) or the fact  
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41 that participatory measures are in great demand in the political sphere. Consequently,  
42  
43 the participation of civil society actors is seen as a key resource for improving processes  
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45 of research and innovation. Especially with the European Commission’s guiding  
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47 principles on Responsible Research and Innovation (RRI) and Open Innovation, we can  
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49 observe a multifaceted set of strategies to mainstream participation in processes of  
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51 knowledge production (e.g., Owen et al. 2013). The main idea behind these  
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53 developments is not only to create legitimacy and acceptance for innovation, but also to  
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55 improve innovations themselves. This is to be achieved by constituting “co-  
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3 responsibility” (Schomberg 2013) of civil society actors. This policy of mainstreaming  
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5 ‘epistemic inclusiveness’ in research projects can be expected to create new  
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7 constellations of social and epistemic control which, as starting hypotheses, call for new  
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9 analytical tools for a better understanding.  
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12 The format of research projects offers a space to handle the expectations of  
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14 research work, to organise research processes, to achieve selected outputs and to fix  
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16 outcomes (Torka 2006, 63). While doing so, this framework restricts the principal  
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18 openness of research, but potentially intensifies problems of coordination, especially if  
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20 the actors involved are not exclusively from a research background. Thus, questions of  
21  
22 cooperation become more challenging in these formalised project-types of cooperation.  
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24 We argue that while projects with heterogeneous actors are driven by a dynamic to  
25  
26 enable a balance between social and epistemic control, identity politics emerge. The  
27  
28 issue of identity politics is highly relevant to forms of participatory research. This  
29  
30 perspective was introduced by Epstein (1996) and in the context of research on new  
31  
32 social movements (Bernstein 2005, 53-55). However, the issue of identity and identity  
33  
34 politics has not yet been systematically analysed in the literature on transdisciplinary  
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36 research projects. This relates to the fact that long-term movements or overarching  
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38 structural conditions of societies were typically seen as analytical starting points for  
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40 investigations into identity politics (overview: Bernstein 2005).  
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47 This paper is divided into four sections. First, we will argue that forms of  
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49 identity politics are related to forms of research projects. In doing so, we differentiate  
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51 between weakly tied and strongly tied identity politics (chap. 2). Secondly, we describe  
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53 three cases analysed by the CONSIDER project (2012–2015). These cases are  
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55 specifically selected to demonstrate the transformative impact of CSOs on knowledge  
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57 production. It can be shown that their forms of social interaction differ considerably,  
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3 from a CSO-distant mode to a CSO-driven mode (chap. 3). Thirdly, the insights from  
4 the cases will be interpreted against the background of the named forms of identity  
5 politics (chap. 4). Finally, some conclusions will be drawn from the conceptual  
6 considerations and empirical insights from these projects for the analysis, support and  
7 performance of transdisciplinary research (chap. 5).  
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## 16 **2. Identity and identity politics in participatory research projects**

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18 The notion of identity is a concept used by a wide range of disciplines and which is  
19 highly contested with regard to political as well as theoretical-conceptual considerations  
20 (e.g., Brubaker and Cooper 2000; Schwartz et al. 2011). Nevertheless, the notion of  
21 identity is of increasing importance with respect to the break-up of entangled and  
22 therefore reciprocal stabilised relationships of agents, institutions, cultural  
23 classifications and political economy (e.g., Bernstein 2005). The question of identity  
24 gains its importance from the fact that identity is fundamentally situated at the edge of  
25 agency and politics (Hall 2000, 16). Identity comes into play in many cases, acting to  
26 roll out political agency by advocating for recognition of and respect for specific  
27 cultural or normative differences causing in many cases grievances or illegitimate  
28 economic inequalities. The claim of identity is thereby constitutive for allowing both to  
29 assemble a more or less homogeneous group that differs from other groups in some  
30 relevant respect, as well as for urging the necessity of political action.  
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49 Especially in the context of social movement research, these activities were seen  
50 as efforts to regain control over decisions and to expand the area of choice by seeking  
51 recognition for specific lifestyles or worldviews (e.g., Epstein 1998; Polletta and Jasper  
52 2001); and in discourses on sexual orientation, it could be observed that these  
53 movements “employed novel tactics and set out to challenge the very categories of  
54 identity that had previously motivated activism” (Bernstein 2005, 56). It is important to  
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3 notice that identity cannot be seen as a fixed category: On the contrary, it is a concept  
4 relating to continuous processes of identification with broader communities, practices or  
5 institutions for self-positioning and self-understanding. This has consequences for  
6 politics and vice versa. While governing by and through identity, identity is  
7 continuously in a state of flux (Lawler 2014).  
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15 With regard to the question of identity politics within research projects, four  
16 points require discussion. First, there is the question of how we can understand and  
17 conceptualise identity here. This discourse is multifaceted, such that we have to narrow  
18 down the analysis to some of the most important aspects. Secondly, we must ask how  
19 we can actually understand CSOs and their importance for identity politics in the public  
20 sphere. This issue underlies the often complicated or contested relations to the  
21 represented communities, and needs to be disentangled analytically. Thirdly, we must  
22 view science and scientists as key actors in research projects. In which senses are  
23 identity and identity politics relevant for them? Fourthly, it is important to look  
24 specifically at research projects concerning cooperation in knowledge production  
25 processes. We do so by offering a typology specifically elaborated for understanding the  
26 cooperation of CSOs with scientists in research projects.  
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42 One often-cited definition claims that identity is “that part of an individual’s  
43 self-concept which derives from his knowledge of his membership of a social group  
44 together with the value and emotional significance attached to that membership” (Tajfel  
45 1978, 63). This definition refers to social identity theory. Nevertheless, there are good  
46 reasons to use the term ‘collective identity’ instead (Ashmore et al. 2004, 81). Identity is  
47 a highly relevant aspect of any community or social movement, but it is constituted  
48 differently and has to be described multi-dimensionally (e.g., Breakwell 1986; Ashmore  
49 et al. 2004, 83). With regard to environmental psychology, the category of ‘place’ must  
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3 also be taken into account as a strong variable (e.g., Lewicka 2011; Clarke et al. 2018).  
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5 Building collective identity is a two-sided process as it addresses ‘we’ as well as ‘them’,  
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7 or ‘intern’ as well as ‘extern’ classifications (e.g., for an overview see Wetherell 2010).  
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10 These categorisations allow the construction of otherness by ‘we’ and ‘them’, and the  
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12 performance of identity politics. Firstly, there is the aspect of being specific, by having  
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14 a shared collective identity. Secondly, and with regard to the external reference: Identity  
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16 is a claim for saying what is different and ‘other’ in comparison to other social groups.  
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18 Both aspects together enforce a variety of different goals, such as the protection of their  
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20 own social sphere against other ‘worlds’, the fight for acceptance of a hitherto  
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22 stigmatised identity or rearranging the public perception of selected social groups by  
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24 challenging the classifications used.  
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29 However, these politics for separating social spheres by claims of identity are  
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31 not only fuelled by those claiming a specific identity. Often, there is also a dynamic of  
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33 ‘othering’ by social groups that are not identified with the identity under consideration.  
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35 Seen that way, identity politics is two-sided, because processes of self-positioning and  
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37 other-positioning are aligned together. The literature discusses three main forms of  
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39 ‘otherness’ and ‘othering’. These are, firstly, forms of “embodied identity and  
40  
41 otherness”, typically related to all forms of being other by specific characteristics that  
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43 can be related to the body, such as being male or female, or sexual orientation (e.g.,  
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45 with respect to health movements: Brown et al. 2004). Secondly, there are forms of  
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47 “cultural identity and otherness”. These are often related to different forms of religious  
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49 orientation, as religions in many cases express the core set of orientation patterns in a  
50  
51 cultural sphere, but are not restricted to these (Brubaker and Cooper 2000). Thirdly,  
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53 there are forms of “located identity and otherness”. This states that people live at  
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55 concrete places through which they connect their feeling of identity (e.g., Clarke et al.  
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3 2018). Easy to imagine, these different forms of ‘identity and otherness’ are related to  
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5 each other and might overlap (e.g., Blume 2010).  
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8           What about CSOs and their role and relation to identity and therefore identity  
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10 politics? CSOs are not necessarily the same as movements or communities. On the  
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12 contrary, they often stand in a specific representational relationship to one single or a  
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14 couple of communities. CSOs, following a widely used definition by the European  
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16 Commission (2008, 6), “[...] are considered to be any legal entity that is non-  
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18 governmental, not-for-profit, not representing commercial interests, and pursuing a  
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20 common purpose in the public interest”. Thus, the term CSOs subsumes a wide range of  
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22 different social groups. To some degree, they can be placed between activist movements  
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24 and communities. They act like movements in that they identify problems that require  
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26 societal consideration, claiming identities for specific groups represented by them and  
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28 defining who is in charge of solving the problem (e.g., Barbot 2006; Rabeharisoa et al.  
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30 2014).  
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35           Identity politics are performed by using selected tactics. Typical epistemic  
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37 tactics are related to selected features of knowledge production, e.g., by offering  
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39 specific knowledge (Pol 2014), by focusing on otherwise ignored questions (Frickel et  
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41 al. 2010), promoting selected research questions (Callon and Rabeharisoa 2008) or  
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43 contesting methodological presuppositions (Epstein 1996). These tactics aim to control  
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45 epistemic claims within the cooperation by expanding control over the social form of  
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47 cooperation and vice versa. Forms of identity politics will depend on the issue under  
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49 consideration (as these are related to both variants of epistemic involvement as well as  
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51 different forms of identity and otherness), the form in which CSOs are included within  
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53 the research project and the relation of CSOs to communities. CSOs might have a claim  
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55 to represent a specific group of actors in the political arena, claiming public interest  
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3 while promoting specific interests. Alternatively, CSOs may represent a group with  
4 special interests, promoting these special interests in order to be acknowledged and  
5 protected by society.  
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10 Questions of identity and otherness must also be addressed to science. With  
11 regard to science, one can state: “Identity is an assertive element for the practitioners of  
12 a discipline. It is linked to the concept of affiliation developed through years of  
13 immersion in a cognitive corpus, with its own specific concepts, a specific vocabulary,  
14 and grounded in a family of phenomena, materials, instruments, theories; all reinforced  
15 by ‘habitus’ and the professional associations of practitioners (...).” (Marcovich and  
16 Shinn 2011, 588) This means that scientists are socialised and trained in specific skills,  
17 which by immersion are highly lived as identity. Identity is not to be separated from the  
18 ‘epistemic identity’ given by the epistemic culture and skills in which individual  
19 representatives of this culture are trained. The influence of an ‘epistemic identity’ can  
20 be shown in the difficulties of interdisciplinary cooperation between researches  
21 practicing different epistemic cultures. Most conflicts emerging in such settings are  
22 closely related to the fact that these conversations are influenced to varying degrees by  
23 safeguarding one’s own ‘epistemic identity’ in the face of perceived challenges by the  
24 presence of other ways of ‘epistemic world-making’.  
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44 However, there is a powerful presupposition of ‘being a scientist’ (sharing the  
45 same identity as a member of the scholarly world). There are shared, value-based  
46 identities, such as the value of autonomy which is important for all sciences. Autonomy  
47 describes a basic condition of science, allowing scientists to work detached from  
48 specific societal affordances. Not surprisingly, one important socio-epistemic tactic  
49 employed by scientists in hybrid forums is to define the setting of knowledge-  
50 production. For example, ‘citizen science’ activities invite lay-people while at the same  
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3 time protecting scientists from being questioned in their role (Kimura and Kinchy  
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5 2019). This is also mirrored in one important generalised classification: that between  
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7 ‘experts’ on the one hand and ‘lay-people’ on the other, resulting in the claim of the so  
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9 called “deficit model” (critique, e.g., Bucchi 2015). Obviously, identity and identity  
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11 politics for and by scientists can be impacted by confusing these different levels  
12  
13 (identity by practicing an epistemic culture, identity by being member of the scholarly  
14  
15 world, identity by being an expert) — sometimes around strategic reasons or on grounds  
16  
17 of self-misunderstanding.  
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21 To sum up this first part related to identity and identity politics, we suggest a  
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23 differentiation between weakly tied identity politics and strongly tied identity politics.  
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25 Weakly tied identity politics is characterised by the circumstance that the  
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27 representational dominates the affectional aspect of identity-saving activities. Strongly  
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29 tied identity politics come into play when there are indivisible aspects of identity under  
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31 attack. This is typically the case, if forms of “embodied identity and otherness”,  
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33 “cultural identity and otherness” and “located identity and otherness” are highly  
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35 intertwined.  
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40 The observation that the forms and aims of identity politics differ significantly  
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42 between CSOs and scientists brings us to the question of cooperation between these two  
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44 groups in research projects. The project-type format lead to increasingly formalised  
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46 funding conditions. These are of significant importance for the cooperation structure  
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48 within participatory research. In the CONSIDER project, we suggest differentiating  
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50 between two dimensions of interaction: the social interaction scheme on the one hand,  
51  
52 versus the knowledge production scheme on the other. Doing so facilitates analysis of  
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54 attempts to achieve equilibrium between both dimensions in research processes  
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56 involving co-work between researchers and CSOs (for the following, compare Bösch  
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3 and Pfersdorf 2014). First, there is a *social interaction scheme*. In projects ‘driven’ by  
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5 CSO involvement, CSOs interact intensively with other consortium partners and are  
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7 typically leaders of the consortium. At the other end of the spectrum, a CSO’s position  
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9 is ‘distant’ from the core of the project, implying a minimum degree of social  
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11 interaction, e.g., as a cooperation partner of one consortium partner. Between these  
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13 extremes are ‘balanced’ arrangements in which the level of social interaction among  
14  
15 CSOs and other project partners is largely equal. It is obvious that these interaction  
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17 schemes only offer a snapshot of a multifaceted process of interaction. Secondly, the  
18  
19 *knowledge production scheme* can be shown to be a decisive dimension. In terms of  
20  
21 knowledge production, CSOs can have either a ‘focused’ or a ‘transformative’ role in a  
22  
23 research project. Such a focused knowledge production scheme should be seen as the  
24  
25 standard. CSOs thereby offer some selected piece of knowledge or are responsible for  
26  
27 dissemination tasks. This description of focused importance within knowledge  
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29 production contrasts sharply with that of a transformative knowledge production  
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31 scheme. In such cases, CSOs have a remarkable impact on the core production of  
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33 scientific knowledge. This core can be described by the elementary aspects of the  
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35 production of knowledge, research agenda, methodology, empirical design and data  
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37 collection and the interpretation of findings.  
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45 It is easy to imagine that cases involving a transformative impact on the  
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47 production of scientific knowledge are more interesting with regard to the analysis of  
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49 identity politics. In such cases CSOs influence the process that is otherwise entirely  
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51 controlled by scientists, thereby challenging scientific authority and epistemic control.  
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53 With regard to analysis of the three cases presented in the following section, one has to  
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55 ask how the cooperation is structured, whether identity politics is encouraged and which  
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57 socio-epistemic tactics are used for constructing and maintaining social as well as  
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3 epistemic control in these hybrid forums of knowledge-production. Against this  
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5 background the following empirical analysis aims to shed light on the use of socio-  
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7 epistemic tactics by the two actor groups, allowing both to conduct the project as well  
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9 as to preserve their respective identities.  
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### 13 **3. Transformative influence of CSOs: three selected research projects**

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16 The empirical basis of this paper is an EU-funded research project: CONSIDER (2012–  
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18 2015). The project analysed whether — and if so how — CSOs are involved in research  
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20 projects funded by the EC and other funding organisations. In summary, 33 case studies  
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22 were conducted (for details of the empirical design, see Revel et al. 2013). Viewing  
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24 projects from that perspective, different questions arise concerning whether each of the  
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26 six types of knowledge-production occurs. An unanticipated finding was that all of the  
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28 combinations of the social interaction scheme (CSO-distant, CSO-balanced and CSO-  
29  
30 driven) and the knowledge production scheme (focused impact, transformative impact)  
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32 could be observed (Böschchen and Pfersdorf 2014, 42). The following section analyses  
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34 three exemplary cases offering insights into the form and intensity of identity politics in  
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36 relation to projects where CSOs have a transformative impact on knowledge production.  
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38 The three projects selected are: (a) a community-based research project (CSO-driven,  
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40 transformative impact on knowledge production; case KIT A)<sup>1</sup>, (b) a cooperative–  
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42 inclusive research project (CSO-balanced, transformative impact on knowledge  
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44 production; case KIT F) and (c) a peripheral-inclusive research project (CSO-distant,  
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46 transformative impact on knowledge production; case KIT J). One important factor  
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48 should be noted: As the researchers gained access to some of the projects only on  
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59 <sup>1</sup> The cases are named first after the institution responsible for conducting the empirical research, and  
60 then a letter indicating the internal number of the case.

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3 condition of anonymity, the projects are necessarily discussed in quite an abstract  
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5 manner in order to avoid potentially disclosing their identities. Narratives are typically  
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7 enriched by these tastes of concreteness; consequently, such richness is unfortunately  
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9 lacking from the accounts presented here.  
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14 ***CASE A: Community-based research project following an environmental***  
15  
16 ***disaster***

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18 This project was set up in the context of a severe crisis involving widespread  
19  
20 environmental contamination following an industrial disaster. Subsequently, the state  
21  
22 administration saw the need for such a project to outline the impacts of chemical  
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24 discharges on the environment and possible strategies to cope with the associated  
25  
26 damage. Different local communities lived within this environment, and were the main  
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28 beneficiaries of the research project. The relevance of the project was confirmed by an  
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30 exploratory phase that revealed contamination of soil and fauna in the area where the  
31  
32 communities live. This was relevant because the food sector provides one pillar of the  
33  
34 communities' economic basis. As one of the communities had already established  
35  
36 trusted cooperation with an environmental CSO over a period of several years, the CSO  
37  
38 initiated the process through an invitation to a research institute well known by them.  
39  
40 Demonstrating their willingness to cooperate further, additional local communities and  
41  
42 CSOs came on board. The project itself aimed to analyse the distributions of  
43  
44 environmental pollutants at sites and objects that were identified as highly relevant for  
45  
46 the local communities, and to assess their impacts on human health and economic  
47  
48 conditions. Fishery was one main source of income for these local communities. Within  
49  
50 this project the CSOs and participating communities had a strong influence on the  
51  
52 research process, as it covered various aspects within the process of knowledge  
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54 production (including the definition of the research agenda, methodologies as well as  
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3 data capture and interpretation). Against this background, a complex landscape of  
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5 organisational as well as communicative measures was established to structure the co-  
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7 work between these groups on the one hand and the researchers on the other.  
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10 Nevertheless, the socio-epistemic tactics differed between the groups.  
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12 With regard to local communities and CSOs: Firstly, it was important to identify  
13  
14 the hazards and damage within the study area that were relevant to the local  
15  
16 communities and, if possible, to remediate this damage. In this respect, analysing and  
17  
18 controlling the effects on natural environment with regard to selected endpoints within  
19  
20 the ecosystem were key. The local communities followed a tactic of endpoint-oriented  
21  
22 research, which forces the researcher towards difficult decisions (see below). Secondly,  
23  
24 a decisive act was to exclude industry and their partners from the project. Therefore,  
25  
26 industry was not part of the project, either as a partner or a subcontractor. This was seen  
27  
28 as a precondition, as industry caused this severe environmental damage but yet was  
29  
30 unable to offer the communities acceptable forms of compensation. Moreover, it was  
31  
32 assumed that the knowledge production process would have been negatively influenced  
33  
34 by the inclusion of industry interests in the project. Thus, for the communities one key  
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36 socio-epistemic tactic was to radically exclude industry and their knowledge from the  
37  
38 project (including preventing the researchers from contacting industrial experts).  
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44 The researchers, confronted with this tactic of endpoint-oriented research faced a  
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46 problem, as this represented a call for exceptions from methodologically sound  
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48 standards:  
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52 “Well, there is a limitation in seeking the truth and that’s why I’m sending [my  
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54 PhD-student] to go and find out {laughs} what everybody else is doing. What I’m  
55  
56 saying is we are not presenting our data. But we are trying to find out what other  
57  
58 people are finding. Is the data we’ve got — from the places that she’s got on her  
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60 map — different from what other people have found? That is the reason why we  
want to do that. ...She’s a spy.” (KIT A\_INT 1)



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3 The underlying epistemic problem was that the researchers had to modify their data  
4 collection routines and therefore faced the methodological problem of determining  
5 whether or not the collected data were suitable. Moreover, these boundary conditions  
6 meant that it was not possible to successfully work towards completing a PhD thesis  
7 within the framework of the project. Therefore, the key socio-epistemic tactic consisted  
8 of reframing their work as providing services. This was astonishing with regard to the  
9 epistemological innovation that would have been possible had the researchers followed  
10 the non-routinised forms of knowledge production. However, this was seen as too risky.  
11 Thus, there was an interesting constellation, wherein the CSOs saw the necessity of  
12 conducting risky research whereas the researchers shrank back from this. Importantly,  
13 the scientists encountered conflicts for preserving their epistemic identity as well as  
14 authority through the socio-epistemic tactic of self-distancing from their work on the  
15 project.

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34 ***CASE B: Cooperative-inclusive research project for promoting sustainability***  
35 ***innovations***

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38 This project was funded as a stream of research for the benefits of including CSOs  
39 partners. Three groups of organisations played major roles in this research project: local  
40 communities, CSOs and research institutions. The basic idea of the project was to  
41 understand whether and how selected communities attract themselves to specific  
42 sustainable social innovations, to model the social and environmental conditions that  
43 enable such innovations and finally to transfer these innovations to other communities.  
44 The geographical focus of the project was Latin America. There, the researchers  
45 identified four different local communities that implemented social innovations that  
46 were sustainable and improved living conditions in their respective communities. One  
47 case in point concerned payments for ecosystem services. For example, a community  
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3 changed its method of producing bricks and thereby protected the environment. As the  
4 products were ecologically valuable, the community received a payment. Nevertheless,  
5 the researchers lacked a robust connection to the communities. Thus, the inclusion of  
6 CSOs that had established such connections through years of cooperation was decisive  
7 not only with regard to the funding scheme but also to functional necessities, and was  
8 greatly appreciated by the scientists involved in the project.  
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11 The CSO project partners possessed both local knowledge and connections of  
12 trust to the different local communities. Some were experienced in working with these  
13 communities and all were specialists in issues concerning sustainability. Moreover, they  
14 had local knowledge at their disposal. This was necessary for conducting the  
15 innovations for sustainability. Therefore, the project per se would not have been  
16 conducted without the CSOs, but they also profited from it. The project supported them  
17 in extending their role in the region. The CSOs strengthened their connection to the  
18 communities and also gained societal recognition through their growing scientific  
19 reputations. Being involved in agenda setting and data collection and being responsible  
20 for field trips conducted by the research team, the CSOs gained vast experience that was  
21 highly valuable for their work. Moreover, one interviewee from a community  
22 emphasised that it was important for communities as well as CSOs that their work was  
23 now well documented. Seen that way, the CSOs used the well-known socio-epistemic  
24 tactics of acquiring scientific knowledge and enforcing their role as representatives of  
25 selected communities (e.g., Epstein 2008). Interestingly, the researchers themselves saw  
26 the fundamental importance and need for CSO involvement in making the project a  
27 success — not simply for meeting the requirements of the funding agency, which called  
28 for CSO involvement as a prerequisite for funding. The scientists conceded that:  
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3 “You need to adapt science to the needs of those who are the end-users, for  
4 instance in the case of technologies, or where the actual problem has emerged  
5 from. You need to make the connection which might be missing in the realm of  
6 pure science. Taking this aim seriously, we involve CSOs in different stages of the  
7 project — not only in the end for dissemination but also in the beginning for  
8 agenda setting” (KIT F\_INT 2).  
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14 Hereby, one decisive success factor was the project’s chosen framework, which  
15 followed a methodology of action research:  
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19 “We are following this approach of action research and we are working together  
20 with the local stakeholders. This is decisive for shortening the procedure. Well, the  
21 project is only running a short time and thus there is a need to start as soon as  
22 possible. You need partners being accepted and you trust in them.” (KIT F\_INT 1)  
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28 The framework of action research worked well and the scientists treat the CSOs more or  
29 less as an equal in knowledge production. The researchers profited from the cooperative  
30 arrangement because the CSOs facilitated data collection and data analysis. Against this  
31 background, they and the scientists published scientific findings together. It was  
32 decisive for the success of the project that both researchers and CSOs were oriented  
33 towards adaptation of the concrete option for innovation in the respective environments  
34 of the communities. This means that they followed the idea of creating a social learning  
35 field to contextualise, disseminate and mainstream sustainability innovations.  
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45 Proceeding in that manner, all the different actors had both a relatively broad space for  
46 gaining knowledge as well as a clear orientation to conduct the research. One can claim  
47 this as a socio-epistemic tactic of shared experimental learning. This project was  
48 spurred on by the fact that researchers as well as CSOs were convinced of the  
49 importance of this innovation and the need to contextualise it. Consequently, both  
50 groups easily collaborated in trialling the respective innovations within different local  
51 contexts.  
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3 ***CASE C: Peripheral-dominant research project: health technology innovations***  
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6 This research project was funded by the German Ministry of Education and Research  
7 (BMBF). By the end of the research project, the participants expected to develop some  
8 technical applications for disabled people as the most obvious outputs. Moreover, the  
9 researchers expected to gain insights about processes of aging and to learn how the  
10 bodies of elderly people function. Apart from these results, the project also aimed to  
11 produce methodological knowledge about the possibilities of end-user integration into a  
12 scientific and technological research project. In contrast to typical research proposals,  
13 the specific content-related focus of the project was not described in advance. The  
14 disciplinary knowledge, competences and abilities of the scientists and company  
15 workers involved in the project limited the range of possible outcomes. Two other  
16 technical applications resulted from the participatory research process, and were  
17 previously unknown. The interdisciplinary research group involved scientists from  
18 research institutes as well as employees from a hospital and the business sector. The  
19 group co-developed common ideas for products and applications together with a  
20 selected group of disabled people who represented an exemplary group of end-users.  
21 Their knowledge was the foundation of the R&D-process in this project. Therefore, they  
22 were involved in the knowledge production by obtaining and interpreting the data and  
23 having authorship of articles and patents. There was a stimulating convergence of  
24 research interests and the orientation towards marketable products. These issues were  
25 scientifically challenging, and solving them held the promise of delivering market-  
26 relevant innovations. Primarily, representatives from the CSOs representing the disabled  
27 users took part as affected persons. With greater project progress, these representatives  
28 felt it could also be helpful to spread knowledge about the new applications to the  
29 interested community.  
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3 Most challenging was the design of the cooperative arrangements between the  
4 scientists and the disabled groups, with respect to the CSOs. The two main approaches  
5 for including external actors within the research process consisted of online social  
6 media platforms and workshops involving disabled end-users. This imposed a distance  
7 from the core team involved in the research and development (R&D) process. This  
8 construction was instructive, as the CSOs operated both inside and outside the project at  
9 the same time. As the CSOs were simultaneously in a socially distant position, conflicts  
10 emerged and we found several strategies for conflict resolution, e.g., mutual agreement  
11 or consent regarding general decisions on the project or specific questions of product  
12 development were to be answered by CSOs. The important socio-epistemic tactic for  
13 the researchers was to parcel out the research process in a clear set of steps with specific  
14 interaction options. This can be seen as a tactic of selected affiliation. For example,  
15 cooperation with the technical developers was also placed at one specific step distant  
16 from the development. Moreover, there was an interesting convergence of prototyping  
17 and scientific knowledge-production. This can be seen as a tactic of strategic coupling  
18 as it allowed scientific knowledge-production (as latent interest) to be conducted under  
19 the promise of creating new treatment opportunities (manifest interest). To put it in  
20 slightly exaggerated terms, this can be interpreted as epistemic camouflage.  
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44 The cooperation between researchers and the disabled groups could have been  
45 established through the work of an intermediary that had worked for more than ten  
46 years with both the CSOs and disabled users. This intermediary was decisive in making  
47 this project possible, since the disabled actors were uneasy about such collaborations,  
48 having previously had many negative experiences. The CSOs and the respective  
49 disabled actors wanted to be part of the social network and to be recognised as  
50 individuals by the researchers. They therefore followed the socio-epistemic tactic of  
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3 building a problem-solving community. This collided with the call for autarky on the  
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5 side of the researchers. Nevertheless, the project was successful as the coordinators not  
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7 only put an intermediary into action but conducted the project using a series of  
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9 platforms for interaction following a tactic of selected affiliation. As a result, the latent  
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11 potentials for protest by the CSOs could be canalised and the researchers' desire for  
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13 demarcation could be served.  
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#### 16 17 18 **4. Discussion: Epistemic conflict and identity politics** 19

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21 The following descriptions should be viewed as portrayals of finished processes.  
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23 Analysis of the three cases highlights three insights. First, the projects differ with regard  
24  
25 to the socio-epistemic tactics used by the groups involved. These mixtures of tactics are  
26  
27 closely related to the forms of the projects studied here. The use of such tactics  
28  
29 corresponds to the epistemic conflicts upcoming in the projects. Thus, they serve to  
30  
31 control one's own social and epistemic territory against possible unwanted or negative  
32  
33 impacts associated with the cooperation partners. Second, the differentiation of the two  
34  
35 analytical dimensions of 'knowledge production scheme' and 'social interaction  
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37 scheme' and their interplay shows in the three cases that each concrete form of  
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39 epistemic and social control represents the outcome of an equilibrium between social as  
40  
41 well as epistemic interactions. Third, not all the cases show that these kinds of projects  
42  
43 are necessarily highly conflict-driven processes of interaction between researchers and  
44  
45 CSOs in the course of the mostly problem-centred knowledge production. Although  
46  
47 problem-centred knowledge production seems to introduce a relevant tension into these  
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49 actions, this is the tension between researchers, who must explore new ways of  
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51 knowledge production for problem solving, and CSOs that often focus on very specific  
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53 aspects of the whole problem in seeking to ensure that their particular problem is  
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55 solved. The pressures of identity politics differ, and were not necessarily high or else  
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3 could be reduced. Although a significant variety of socio-epistemic tactics was to be  
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5 observed, their interplay and the resulting cooperative structure seemed to be successful,  
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7 in the sense that the room for cooperation was structured without closing it down.  
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9 Nevertheless, the outcomes were different, as in cases A and B we observed a shared  
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11 epistemic control in contrast to case C.  
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15 In case A the pressure for scientists was decreased, as the problem-solving  
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17 approach as well as the communities' responsibility for the project organisation offered  
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19 space for the tactic of self-distancing. In doing so, they avoided conflict with their own  
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21 scientific community, but were not able to test whether the situation offered an option  
22  
23 for new or innovative ways of producing knowledge. For the communities this was  
24  
25 impossible, as the environmental catastrophe within the study area directly impacted  
26  
27 their natural habitat and ways of life. Thus, identity-saving measures were key for them.  
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29 Therefore, this project only succeeded because the communities' strongly tied identity  
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31 politics was accompanied by a weakly tied identity among the scientists.  
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35 Case B was unproblematic with regard to identity politics as all of the actors  
36  
37 followed the socio-epistemic tactic of shared experimental learning, thereby leaving  
38  
39 plenty room for each actor and allowing far-reaching cooperation within the project as  
40  
41 the division of labour was easily defined and allowed CSOs to work scientifically as the  
42  
43 researchers. The CSOs had the trust of the communities and could integrate local  
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45 knowledge; the researcher had the role of generalising the outcomes of the different  
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47 local experiences with regard to the generalisability of the innovation under  
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49 consideration. Importantly, neither group (i.e., neither researchers nor CSOs)  
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51 experienced severe conflicts with regard to maintaining identity. This means that both  
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53 main actor groups displayed weakly tied identity politics.  
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3 In contrast to cases A and B, case C appears different as there was a need for  
4 strongly tied identity politics among the relevant actor groups. Anticipating this, the  
5 researchers adopted two tactics: strategic coupling of research goals, and  
6  
7 intermediation, thereby allowing them to hold epistemic control. Nevertheless, the  
8  
9 entire research process was difficult, especially for the CSOs and the disability actors  
10  
11 that they represented. They had to agree to share their knowledge, although they had to  
12  
13 fight against any form of epistemic exploitation of their specific situation and body.  
14  
15 Their goal was mainly oriented towards protecting the group against any kind of  
16  
17 infringement while sharing knowledge. The main socio-epistemic tactic was to enforce  
18  
19 a problem-oriented approach to knowledge production by building a problem-solving  
20  
21 community. This was in strong tension with the tactic of selective affiliation, as they  
22  
23 together represent two different identity concepts: one of ‘connectedness’ (selective  
24  
25 affiliation tactic) and ‘grouping’ (a tactic building a problem-solving community) (for  
26  
27 the differences between connectedness versus grouping, see Brubaker/Cooper  
28  
29 2000:19f.). This resulted in a seemingly unsolvable dichotomy of identity politics,  
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31 which was ultimately addressed by implementing a strong project governance regime,  
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33 protecting the researcher’s epistemic control by structured social control.  
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## 44 **5. Conclusions**

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46 Looking from these findings back to the starting point of our journey, it is apparent that  
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48 scientific identity politics was formerly a comparatively easy task. What are the  
49  
50 overarching lessons to be drawn from this analysis? Firstly, there are highly productive  
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52 approaches for including CSOs in research, which also facilitate transformative forms  
53  
54 of knowledge production. Nevertheless, in most cases these are coordination-intense  
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56 processes, as the forms of social as well as epistemic control are bargained throughout  
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58 the entire project. Both researchers and scientists have their own tactics for offering  
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3 themselves the option of participation. In any case, such collaboration is a risky  
4  
5 endeavour for both groups, as it might challenge their routines and premises of action.  
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7 Secondly, these tactics are closely related to the need for preserving the identities of the  
8  
9 communities to which the respective actors feel attached. This provokes tactics of  
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11 identity politics, pushing needs for an explicit governance within the project team.  
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13 These tactics are selected in order to realise forms of epistemic and social control.  
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15 Thirdly, as forms of co-research expand, questions of who then owns the process — and  
16  
17 what are the consequences for the respective identities of the communities — become  
18  
19 urgent. Thus, the politics of scientific identity is becoming an undeniable task and,  
20  
21 moreover, a demanding one. This is not difficult to understand, as these co-research  
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23 actions offer a hybrid forum between different communities and their understandings of  
24  
25 what is (and what is not) relevant knowledge for problem solving. However, as the three  
26  
27 case studies show, each of the projects was ultimately successful and each delivered  
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29 meaningful results. This was attributed to different reasons in each case.  
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35 Relating this back to established and upcoming research traditions, these insights  
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37 are of great importance. Looking at discourses with a strong tradition of designing as  
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39 well as analysing the interaction between researchers and civil society actors, namely  
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41 those of “action research” (locus classicus: Lewin 1952; e.g., Kemmis/McTaggart 2005)  
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43 and of “transdisciplinary research” (e.g., Pohl et al. 2017; Felt et al. 2016), the  
44  
45 upcoming conflicts within the research processes were mostly analysed as resulting  
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47 from diverging interests or an unequal power structure. In the meantime, interesting  
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49 new alliances and couplings between these strands as “living labs” or “real-world  
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51 laboratories” (e.g., Schöpke et al. 2018) take place in the research landscape. These  
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53 forms of real-world experimentation are gaining importance by the fact that there are  
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55 concrete, real-world questions to be solved which require the inclusion of citizens or  
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3 their representatives (CSOs) as a more or less pivotal prerequisite. Moreover, the  
4 traditions mentioned above have opened up a sophisticated and heterogeneous field of  
5 practical experimentation, but also theoretical consolidation. Thereby, some of the basic  
6 assumptions and foci of analysis were used without specifically reflecting their  
7 adequacy under the new boundary conditions.  
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15 Thus, as these developments indicate a reorientation of knowledge production  
16 within processes of societal problem-solving, the analysis of identity politics as  
17 presented in this article seems to be a building block for uncovering the ordering of  
18 social as well as epistemic control in such processes. One important insight from the  
19 literature so far was that socio-epistemic tactics were more part of the problem than of  
20 the solution. Surprisingly, the findings of the present article offer insights into a  
21 situational fit. This was the case if at least one of the key groups had the opportunity to  
22 follow a weakly tied identity politics. Moreover, one might argue that the ‘project’  
23 format of the case studies calmed the conflicts and restricted the range of tactics used.  
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With regard to the emergence of more open formats of research such as those  
addressing real-world experiments, one can presume that the formal constitution of such  
processes might help to moderate conflicts between the socio-epistemic tactics  
employed by what are inherently heterogeneous collections of actors.

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## References

Barbot, J. 2006. “How to build an “active” patient? The work of AIDS associations in  
France.” *Social Science & Medicine* 62: 538-551.

- 1  
2  
3 Blume, S. 2010. *The Artificial Ear: Cochlear Implants and the Culture of Deafness*.  
4  
5 New Brunswick, NJ: Rutgers University Press.
- 6 Bogner, A. 2010. "Let's Disagree! Talking Ethics in Technology Controversies."  
7  
8 *Science, Technology & Innovation Studies* 6 (2): 183–201.
- 9  
10 Böschen, S., and S. Pfersdorf. 2014. *Model of CSO Participation in Research*  
11  
12 *Governance*. CONSIDER: Deliverable D3.3
- 13 Braun, K., and S. Schultz. 2010. "'...a certain amount of engineering involved'.  
14  
15 Constructing the public in participatory governance arrangements." *Public*  
16  
17 *Understanding of Science* 19 (4): 403–419.
- 18 Brown, Ph., Zavestoski, S., McCormick, S., Mayer, B., Morello-Frosch, R., and R.G.  
19  
20 Atman. 2004. "Emobdied health movements: new approaches to social  
21  
22 movements in heath." *Sociology of Health & Illness* 26 (1): 50–80.
- 23  
24 Brubaker, R., and R. Cooper. 2000. "Beyond "identity"". *Theory and Society* 29: 1–47.
- 25  
26 Bucchi, M.. 2015. "Changing contexts for science and society interaction: from deficit  
27  
28 to dialogue, from dialogue to participation – and beyond?" In *The Public*  
29  
30 *Shaping of Medical Research*, edited by P. Wehling, W. Viehöver, and S.  
31  
32 Koenen, 211-225. London / New York: Routledge.
- 33  
34 Callon, M., P. Lascoumes, and Y. Barthe. 2009. *Acting in an Uncertain World. An*  
35  
36 *Essay on Technical Democracy*. Cambridge, MA: MIT-Press.
- 37  
38 Callon, M., and V. Rabeharisoa. 2008. "The Growing Engagement of Emergent  
39  
40 Concerned Groups in Political and Economic Life" *Science, Technology &*  
41  
42 *Human Values* 33 (2): 230-261.
- 43  
44 Chilvers, J., and M. Kearnes, eds. 2016. *Remaking Participation: Science, Environment*  
45  
46 *and Emergent Publics*. London: Routledge.
- 47  
48 Clarke, D., Murphy, C. and I. Lorenzoni. 2018. "Place attachment, disruption and  
49  
50 transformative adaptation." *Journal of Environmental Psychology* 55: 81-89.
- 51  
52 Epstein, S. 1996. *Impure Science: AIDS, Activism and the Politics of Knowledge*.  
53  
54 Berkeley: University of California Press.
- 55  
56 Epstein, S. 1998. "Gay and lesbian movements in the United States: dilemmas of  
57  
58 identity, diversity, and political strategy." In *The Global Emergence of Gay and*  
59  
60 *Lesbian Politics: National Imprints of a Worldwide Movement*, edited by B.D.  
Adam, D.W. Duyvendak, and A. Krouwel, 30-90. Philadelphia, PA: Temple UP.

- 1  
2  
3 Epstein, S. 2008. "Patient groups and health movements." In *Handbook of Science and*  
4 *Technology Studies*, edited by Hackett, O., Amsterdama, M., Lynch, M. and J.  
5 Wajcman, 499-540. Cambridge, MA: MIT Press.  
6  
7  
8 European Commission. 2008. *Commission recommendation on 07/02/2008 on a code of*  
9 *conduct for responsible nanosciences and nanotechnology (No. C(2008) 424*  
10 *final)*. Brussels: European Commission.  
11  
12  
13 Felt, U., Igelsböck, J., Schikowitz, A., and Th. Völker. 2016. "Transdisciplinary  
14 Sustainability Research in Practice: Between Imaginaries of Collective  
15 Experimentation and Entrenched Academic Value Orders." *Science,*  
16 *Technology, & Human Values* 41 (4): 732-761.  
17  
18  
19 Frickel, S., Gibbon, S., Howard, J., Kempner, J., Ottinger, G., and D. Hess. 2010.  
20 "Undone Science: Charting Social Movement and Civil Society Challenge to  
21 Research Agenda Setting." *Science, Technology & Human Values* 35 (4): 444–  
22 473.  
23  
24  
25  
26  
27 Hyysalo, S., Jensen, T.E., and N. Oudshoorn, eds. 2016. *The New Production of Users.*  
28 *Changing. Innovation Collectives and Involvement Strategies*. London:  
29 Routledge.  
30  
31  
32 Irwin, A. 2002. *Citizen Science: A Study of People, Expertise and Sustainable*  
33 *Development*. London: Routledge.  
34  
35  
36 Kemmis, S., and R. McTaggart. 2005. "Participatory action research: Communicative  
37 action and the public sphere." In *Handbook of qualitative research* (3rd edition),  
38 edited by N. Denzin, and Y. Lincoln, 559–603. Thousand Oaks: Sage.  
39  
40  
41 Kimura, A., and A. Kinchy, eds. 2019. *Science by the People. Participation, Power, and*  
42 *the Politics of Environmental Knowledge*. New Brunswick, NJ: Rutgers  
43 University Press.  
44  
45  
46 Klenk, N.L., and K. Meeham. 2017. "Transdisciplinary sustainability research beyond  
47 engagement models: Toward adventures in relevance." *Environmental Science*  
48 *and Policy* 78: 27–35.  
49  
50  
51 Lawler, S. 2014. *Identity. Sociological perspectives*. Cambridge: Polity Press.  
52  
53 Lewicka, M. 2011. "Place attachment: How far have we come in the last 40 years?"  
54 *Journal of Environmental Psychology* 31: 207–230.  
55  
56  
57 Lewin, K. 1952. Group Decision and Social Change. In *Readings in social psychology*,  
58 edited by T.M. Newcomb, and E.E. Hartley, 459–473. New York: Holt.  
59  
60

- 1  
2  
3 Lezaun, J., Marres, N., and M. Tironi. 2017. "Experiments in Participation." In *The*  
4 *Handbook of Science and Technology Studies* (4th edition), edited by U. Felt et  
5 al., 195–221. Cambridge, MA: MIT-Press.  
6  
7  
8 Marcovich, A., and T. Shinn. 2011. "Where is disciplinarity going? Meeting on the  
9 borderland." *Social Science Information* 50 (3-4): 582–606  
10  
11 Owen, R., Bessant, J., and M. Heintz, eds. 2013. *Responsible Innovation*. London: John  
12 Wiley.  
13  
14 Pohl, Chr., Krütli, P., and M. Stauffacher. 2017. "Ten Reflective Steps for Rendering  
15 Research Societally Relevant." *GAIA* 26 (1): 43-51.  
16  
17 Pol, J. 2014. "Knowing Patients: Turning Patient Knowledge into Science." *Science,*  
18 *Technology, & Human Values* 39 (1): 73-97.  
19  
20 Polletta, F., and J.M. Jasper. 2001. "Collective Identity and social movements." *Annual*  
21 *Review of Sociology* 27: 283–305.  
22  
23 Rabeharisoa, V., Moreira, T., and M. Akrich. 2014. "Evidence-based activism: patients'  
24 organisations, users' and activist's groups in knowledge societies" *BioSocieties* 9  
25 (2): 111–128.  
26  
27 Revel, M., Spruyt, E., and T. Soubiran. 2013. *FP7 Survey Report: CONSIDER.*  
28 Deliverable 2.2.  
29  
30 Rogers-Hayden, T., and N. Pidgeon. 2007. "Moving engagement "upstream"?"  
31 Nanotechnologies and the Royal Society and Royal Academy of Engineering's  
32 inquiry." *Public Understanding of Science* 16 (3): 345–364.  
33  
34 Schöpke, N., Bergmann, M., Stelzer, F., and D. Lang. 2018. "Labs in the Real World:  
35 Advancing Transdisciplinary Research and Sustainability Transformation.  
36 Mapping the Field and Emerging Lines of Inquiry." *GAIA* 27/S1: 8–11.  
37  
38 Schomberg, R. von. 2013. "A vision of responsible innovation." In *Responsible*  
39 *Innovation*, edited by R. Owen, J. Bessant, and M. Heintz, 51–74. London: John  
40 Wiley.  
41  
42 Schwartz, S.J., Luyckx, K., and V.L. Vignoles, eds. 2011. *Handbook of Identity Theory*  
43 *and Research. Vol. 1: Structures and Processes*. Berlin: Springer.  
44  
45 Shirk, J. et al. 2012. "Public Participation in Scientific Research: a framework for  
46 deliberative design." *Ecology & Society* 17 (2): 29.  
47  
48 Torca, M. .2006. "Die Projektförmigkeit der Forschung." *Die Hochschule: Journal für*  
49 *Wissenschaft und Bildung* 15 (1): 63–83.  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

- 1  
2  
3 Wetherell, M. 2010. "The Field of Identity Studies." In *The Sage Handbook of*  
4 *Identities*, edited by M. Wetherell, and C.T. Mohanty, 4–26. London: Sage.  
5  
6 Wynne, B. 2008. "Public Participation in Science and Technology: Performing and  
7 *Obscuring a Political-Conceptual Category Mistake.*" *East Asian International*  
8 *STS Journal* 1 (1): 1–13.  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
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21  
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