Article

More Than Just Complaints: Generating Thick Engagement Through Thin Participatory Programs

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Abstract

Thin participatory processes are designed for information exchange. But complaint processes, message boards, and hotlines sometimes facilitate thick, meaningful engagement. Can policy design leverage factors driving engagement to enable values-based responses to complex policy problems, while allowing information exchange to continue as-needed for most participants? Using place-based case studies from oil and gas drilling and community complaints in three regions of Colorado, I make propositions about how the drivers of collaboration are related to the practice of engagement within participatory programs. Based on the case studies, presence of coercive policy actors, inclusion of multiple governmental authorities, and transparency in participatory communication are likely to facilitate thickening. Meanwhile, measurement-based responses to participation are likely to propagate thin participation only. Accordingly, in designing thin processes, policy makers should recognize the nature of engagement will depend on the type of knowledge exchanged and the suite of institutions that might use or leverage the participatory action.

Introduction

The submission of comments to an online forms is an easy way for governments to gather information; yet, ease can bely the complexity of such interactions. While conventional participation such as public meetings are the most prototypical version of participation, governments also use simple, brief methods of communication (Nabatchi and Leighninger 2015). Social media such as Twitter or Nextdoor, online comment portals, or even comment postcards allow communication between citizens and governments, with the goal of improving services or gathering information. The terms thin and thick are useful for describing these alternative forms.

Thin participation refers to a broad suite of “tactics that allow individuals to affiliate with a cause, submit ideas, indicate preferences, or otherwise receive

or provide information in fast and convenient ways” (Nabatchi, Ertinger, and Leighninger 2015). With internet and social media technologies that allow rapid collection or dissemination of information, thin participatory forums such as online feedback can allow rapid communication of concerns to government actors (Bovaird 2007; Chang, Zhong, and Grabosky 2018; Mills et al. 2009; Nabatchi 2012; Nelson and Verbyla 1984; O’Brien 2015; Roberts 2004).

Nabatchi and Leighninger define thick participation as mechanisms that “encourage people to work out what they think and what they want to do in conversation with other participants” (Nabatchi and Leighninger 2015, 14). By creating discussions between diverse stakeholders, a thick participatory process such as a community issues forum can promote collaborative learning which in turn can foster normative,

substantive, and instrumental improvements to policy (Coenen 2009; Emerson and Nabatchi 2015b; Kraft 1988; Kraft and Clary 1991; Nabatchi and Amsler 2014).

Despite the intended difference in design, thin programs sometimes generate thick engagement—complaints can foster in-person meetings, social media posts might result in conversations at city hall, or a phone call might prompt an email exchange between multiple stakeholders. The practice of participation is not as clear the design of the forum might indicate. Oil and gas development complaints provide one example of this.

Multiple states maintain complaint systems for monitoring oil and gas infrastructure. Complaint programs are designed to be thin—providing data for government monitoring. In Colorado, the submission is primarily online and is, in statute, a tool for monitoring (COGCC n.d.). However, under some circumstances, firms, governments, and citizens all engage with each other over how to address a complaint. These relationships are not reflected in the administrative statutes governing oil and gas development or published descriptions of the complaint process.

The data presented in this article demonstrates residents complained not only to remedy immediate problems, but also, saw complaining as a way to change the relationship between regulators and firms. Residents viewed complaining as a method of informing ongoing, repeating engagement processes. The outcomes of complaining were often greater than mere information exchange. This raises a critical theoretical question. What contexts and design features of thin participation facilitate thick engagement through new or ongoing engagement processes, despite an intended thin design?

Integration of collaborative governance theory to explain the implementation of participation can provide evidence of how thick engagement might occur within thin participatory programs. Importantly, I do not argue complaints are collaborative governance. Rather, the major theme here is the theoretical expectations of collaborative governance scholarship are applicable to understanding choices to thickly engage. Complaints in Colorado provide a useful case for theorizing about wider facilitation of thick engagement through utilization of thinly designed participatory processes. I emphasize two drivers as key in facilitating thickening: institutions and content of participation.

Theoretical Rationale

Public participation practices vary by who participates, the methods used, and the content discussed (Fung 2006). By design, thick and thin participation

are distinguished by their methods and content (Newig et al. 2018; Scott and Thomas 2017). The thickest participation is deliberation, or “candid and reasoned communication and information exchange that is structured and oriented toward problem solving” (Emerson and Nabatchi 2015b, 62; Nabatchi and Leighninger 2015). Deliberation goes beyond dialogue, an act of communication (Daniels and Walker 2001; Walsh 2007). It can foster shared understandings and collaborative learning through *principled engagement* in which,

people with differing content, relational, and identity goals work across their respective institutional, sectoral, or jurisdictional boundaries to solve problems, resolve conflicts, or create value. (Emerson and Nabatchi 2015b, 46)

While thick participation is a management decision, principled engagement describes a process where the elements of principled engagement must be present for a thick participatory program to achieve desired goals (Daniels and Walker 2001; Nabatchi and Leighninger 2015). These elements include discovery, definition, deliberation, and determinations (Daniels and Walker 2001).

Elements of Principled Engagement

As actors engage, they discover values and interests of other stakeholders (Emerson and Nabatchi 2015a). They create definitions—shared understandings and recognition of different roles for participants. Next, deliberation refers to conversations and discussions about stakeholder values (Bozeman 2007; Nabatchi 2012). Finally, determinations or joint decisions demonstrate a commitment to action reflecting shared values, providing an output that is beyond the initial scope of the conversation.

Thick participatory processes are designed to promote fairer, more democratic, and more effective decisions (Emerson and Nabatchi 2015b; Fung 2015; Innes and Booher 1999; Rosa, McCright, and Renn 2013; Walsh 2007). Thick designs that utilize principled engagement have a strong track record of improving management of complex environmental issues (Daniels and Walker 1996; Davies and White 2012; North et al. 2014; Scott 2015; Ulibarri 2015).

Utilizing principled engagement as a defining characteristic of thick versus thin participation introduces a larger literature on collaborative governance. Collaborative governance refers to a broad suite of decision-making processes (Newig et al. 2018). Specifically, collaborative governance is defined as,

the processes and structures of public policy decision making and management that engage people

constructively across the boundaries of public agencies, levels of government, and/or the public, private and civic spheres.... (Emerson, Nabatchi, and Balogh 2012; Newig et al. 2018)

A recent trend in collaborative governance literature emphasizes rationales for government actors choosing to collaborate rather than adopt an alternative policy mechanism (Newig et al. 2018; Scott and Thomas 2017); yet, the previous iterations of collaborative governance theory have stressed the organic, grassroots potential for collaboration (Ansell and Gash 2008).

This is quite the opposite of the trajectory of the participation literature, which begins with participation as a tool, rather than a grassroots solution formed within the policy process (Fung 2015). The participation literature focuses on choice, motivation of participants, and outcomes, but not necessarily on the organic development of alternative forms of participation within or through existing participatory designs (Emerson, Nabatchi, and Balogh 2012; Fung 2006, 2015; Ingold and Fischer 2014; Newig et al. 2018). The suggestion here is that the drivers of collaboration also describe the processes by which thin participatory programs facilitate thick/principled engagement.

Emerson and Nabatchi point to uncertainty, interdependence, consequential incentives, and leadership as key elements that could transform participation beyond its designed limits (Ansell and Gash 2008; Emerson and Nabatchi 2015b). Uncertainty about interests, options, or alternatives might motivate collaboration as actors seek information. Second, an actor who provides resources or coordination skills, initiating leadership, can drive collaboration. The remaining two drivers are dependent on the institutional rules and opportunity structures facing actors. Institutions are “the prescriptions that humans use to organize all forms of repetitive and structured interactions” (Ostrom 2009, 3). Interdependence can provide a motivation to cooperate by ensuring that actors cannot operate alone, while incentives recognize actors are often motivated by their own self-interest (Ansell and Gash 2008; Axelrod and Hamilton 1981; Berardo and Scholz 2010; Cairney 2011; Emerson, Nabatchi, and Balogh 2012).

Accordingly, the causes of thickening are a function of who participates (capacity), with what knowledge (uncertainty), and under what institutional constraints. This is not a departure from the basic understanding of participation as variance of a “who, what, and how.” Rather, “who, what, and how” reflect emergent properties.

Application of the drivers of collaboration to characterizing participatory processes bridges two literatures; that of collaborative governance scholarship and public participation scholarship. Yet, this bridging

is theoretically useful—propositions about how principled engagement develops within a participatory program can inform understanding of participatory program outcomes. This is especially important given a thick/thin dichotomy in design.

First, where a thin design is intended, but, that thin design creates thick engagement, such actions might surpass the capacity of the actors to carry out the program, leading to uneven outcomes. However, where capacity is sufficient, a thin design could be used to direct case-by-case mediation to address concerns. Thus, there are design motivations for both keeping participation thin and for allowing thin participation to go beyond its expected limits.

However, thin participation does not occur in a vacuum—a choice to thinly participate might be fostered by ongoing thick engagement processes or might be intended to inform those processes. Thus, the thinness of a participatory action can only be understood within a broader context of ongoing patterns of interaction. With the exception of leadership, the drivers of collaboration do not exist as features of a thin forum but are instead, determined by the contexts of participation. Accordingly, the impacts of thin participation can extend far beyond information exchange. Understanding the drivers of thickening might enable adaptive, thick engagement when needed. Alternatively, this might provide guidelines for keeping participation thin.

Applied Case

Many states including Colorado, Wyoming, Texas, and Pennsylvania use complaint programs as part of oil and gas monitoring (Goeschl and Jürgens 2012; Shaffer, Zilliox, and Smith 2017).¹ However, in Colorado, every complaint and response is publicly accessible. This makes the State’s data convenient for understanding the nature of engagement in a thin complaint process (Seawright and Gerring 2008).

“Any person who may be directly and adversely affected or aggrieved as a result of the alleged violation and whose interest is entitled to legal protection under the Act” can contact the state agency, and the “Director will investigate all complaints” and “notify the Complainant of the determination.” Next, “if the Director determines no violation occurred, the Director will notify the operator, and no further

1 Colorado individually permits single geographic locations for drilling (Davis 2012; Fisk 2016; Minor 2013). Local governments can impose aesthetic or building-code based requirements, but, the adoption of specific management practices that exceed State regulations is the purview of the firm. Therefore, practices at individual sites diverge (Davis 2012; Shaffer, Zilliox, and Smith 2017).

action will be taken” or if a violation is identified, “the Director may resolve the matter without seeking penalties” or “initiate an enforcement action seeking penalties.” Importantly then, “a Complainant ... will be given 14 days to comment on the terms of a draft proposed settlement” (COGCC 2013).

In statute, Colorado complaints are thin, sharing information with the State rather than directly addressing resident concerns (Opsal and Shelley 2014). As part of a larger project I interviewed 17 Colorado residents who filed complaints with the state of Colorado about oil and gas sites.² I intended to ask residents about how engagement before drilling impacted their decision to complain. Thus, I began the project with little expectation of engagement through the complaint process.

As part of the project I built a database of property ownership documents for complainants and well sites. For each site I gathered county and municipal codes, bonding records, land use records, and permits. I used these to build a detailed archival report of the history of the well sites, the history of the complaint, and any policies/institutions present. This included elements, such as letters to neighbors, complaint documentation and resolution, drilling permits, abandonment and plugging records, site specific management practices, and contacts with local government officials over permitting and wellsite planning (COGCC n.d.).

I extracted mentions of conversations from the interviews and documents—I further identified principled engagement as areas where conversations went *beyond one-way or two-way interaction, to repeated exchanges involving interests or values*. I was intentionally broad in this as I wanted to see where things could be classified as beyond thin.

In 13 of the 17 interviews, I found evidence of citizens conversing directly with firms. Citizen complaints are filed with the state and there is no requirement for firm-citizen interactions, so this alone provides some evidence of a thicker process. Thus, something beyond thin engagement had to be occurring.

For each excerpt where I identified engagement, I then categorized the excerpt as reflective of discovery, definition, deliberation, or determinations (Table 1) to provide a measure of which cases had “thickest engagement.” Where more of these processes are present, I conceptualize this as evidence of thickening, reflected in a higher frequency of the subprocesses of principled engagement (figure 1). The purpose, here, is not measurement but instead general

classification into thick versus thin engagement processes. Accordingly, what explains thicker cases of engagement versus thin cases?

Drivers of Thickening

I coded these archived COGCC and county documents as well as the interviews for drivers of collaborative governance—leadership, uncertainty, and institutional arrangements. I include the code definitions, examples of code applications, and the results of reliability tests as [Supplementary Material](#). In this case, I hypothesized the state of Colorado acted in a leadership role by creating a complaint forum (COGCC 2013; Emerson and Nabatchi 2015b, 46).³ While actors rarely discuss uncertainty directly, they did discuss scientific knowledge or gathering information, which resulted in the implied reduction of uncertainty.

Institutional arrangements included rules that structured actions, including location specific rules, property rights such as mineral ownership or surface ownership (payment for oil and gas), surface use agreements, and engagement practices adopted as part of permitting (engagement voluntary management practices [VMPs]). Within these institutional categories and then also across the interviews, I identified interdependence where one actor required action of another actor to achieve intended or desired outcomes, and consequential incentives where structures made certain actions necessary to achieve desired conditions (Emerson and Nabatchi 2015b, 46). A company being “required to work with all mineral/surface rights holders,” during permitting is an example of interdependence, whereas an operational permit is a consequential incentive.

As the primary researcher I conducted all interviews and applied all codes. Because I conducted, transcribed, and coded all interviews, I became intricately familiar with individual scripts—this made intercoder reliability tests challenging for a second coder. I performed these tests as a verification that the coding scheme could be repeated. The results suggested moderate agreement overall.⁴ Indeed, coding individual extracts outside of their broader basis

2 I sent letters to 65 individuals. It is almost certain that individuals who responded were more likely to thickly engage as they were willing to be interviewed in the first place. Thus, the case data here is a “most likely” case (Seawright and Gerring 2008).

3 Because well sites are tied to complaints in the COGCC database, I do not share these documents in the [Supplementary Appendix](#) as doing so would jeopardize respondent confidentiality but they are available via the COGCC website.

4 On a test of 25 excerpts. I collaboratively coded one manuscript with a second coder then had them blind-code the 25 excerpt sample with multiple potential codes for each excerpt. The most challenging item to code was whether principled engagement occurred itself—in a test of inter-rater reliability, I achieved a moderate Cohen’s kappa of 0.41 was achieved there, while there was much broader agreement on constructs therein—deliberations had a kappa of 0.44 discovery had a kappa of 0.6, determinations of 0.6, and deliberations of 0.65 for a pooled kappa of 0.5 suggesting moderate agreement.

Table 1. Codes for Describing Principled Engagement

Concept	Definition	Example
Principled engagement	Dialogue or communications between residents and firms or residents and firms and the State of Colorado or residents and firms and local government officials. <i>Requires back and forth information exchange and not one or two-way notification/communication.</i>	“Yeah but it went through for it when I mean it was informal, but it went through a fairly formal process as much as there were lots of meetings about it—this that and the other. And we probably had meetings and meetings and meetings.”
Discovery	“Revealing of individual and shared interests, concerns, and values, as well as to the identification and analysis of relevant and significant information and its implications.” (Emerson and Nabatchi 2015b)	“Every couple weeks at least once a month and they’d come out and we’d have meetings of what they could do with the facility to downsize it to make it better— to make visuals better. You know they did ... try to work with me there”
Definition	Efforts to build shared meaning around issues, including roles, problems, terminology used to describe actions and outcomes.	“You just lost you know your house essentially and you have no recourse you have no way to communicate with anybody about it talk to anybody so that was that was actually a really nice thing for me he was like you got a problem to call I can tweak things and I would be glad to do so.”
Deliberation	Use of candid, reasoned discussion around issues (Emerson and Nabatchi 2015b), with the potential for determinations.	“I showed ____ that. Well his excuse was well there’s snow on the ground, I can’t tell. You could see how it was bowed for God’s sakes. You know what I mean. And there were excuses like that through the whole process. Well what is this vibration ____ well I don’t know.”
Determinations	Decisions made either in regard to risk mitigation actions, community actions, procedure, or addressing citizen concerns.	“The county told them if we grant these permits you have to do these things so it was a condition of the permit. ... It wasn’t so much of us working with the commissioners. It was just that the commissioners felt like this would pacify us enough.”

was a challenge. Therefore, the excerpts are best considered en masse: across the interviews, what are the broad trends in the occurrence of principled engagement?⁵

Case Results/Theoretical Application

Figure 2 presents excerpt counts for each principled engagement subprocess and relevant institutional arrangements. For the individuals who did not have interactions with firms via complaining, the complaint process remained thin—characterized by the complaint creating one-way or two-way information exchange without multiple actors or deliberative discussions. Here, complaints worked as designed, as evidenced by the four individuals with no evidence of principled engagement (figure 2).

Three of these four complaints were filed about noise or odors, the fourth person submitted his complaint about a dirt pile on their property (Interview 14). Two other individuals complained about noise and air quality and were clear in the interviews that complaining itself did not foster engagement. Instead, principled engagement followed or preceded via other means.

When a noise or odor complaint occurred, the State followed up with a noise study or air sampling. In the case of a noise complaints, the State worked with firms to address the issue. For example, after one such complaint, the State agent reported that,

(the operator) had extra noise panels installed at the location in an attempt to control any noise from the location... he was having the mufflers

⁵ While this makes intercoder consistency checks less critical for ensuring within sample consistency (Saldana 2015), replicability of the coding is still critical to ensure other scholars can replicate the findings. By testing for consistency compared to a neutral coder the subjectivities of the primary coder can be more fully understood (Campbell et al. 2013). I performed intercoder reliability tests on a sample of 25 excerpts from interviews which were coded as network

connections. The sample was stratified to allow inclusion of all possible codes. The intercoder test resulted in a pooled Cohen’s kappa of 0.5 indicating moderate consistency in a recoding of 25 network excerpts from across three interviews (Landis and Koch 1977). Average intercoder agreement for principled engagement and the five subprocesses was 83%, though cutting out the higher-level principled engagement code, the agreement on the four subprocesses was 87%.

Figure 1. Conceptualization of thickening engagement as measured via each of discovery, deliberation, definition and determinations. As more excerpts are identified within each category, there is stronger evidence of thick engagement.

on the frac equipment replaced.... (Complaint Document, 1661)

The measurements were reported to residents, perhaps with a mention of changes, but, there was no engagement around these results. In the case of noise and air complaints, the scientific response obviates uncertainty as to whether the firm is in compliance.

Accordingly, learning and discovery are not necessarily needed. For firms and/or the State, this might be a benefit, but it presents a challenge for complex problems such as oil and gas development where values are commonly debated. A proposition for design is as follows:

P1: Thin participation that generates scientific measures/facts can reduce uncertainties of policy implementation. Therefore, thin participation that generates measures/facts is likely to suppress values oriented engagement as a direct product of participation.

Just as uncertainty drives collaboration, the ability of thin participation to reduce uncertainty can lessen the State or the firm's requirement to engage. A thin process can mitigate uncertainties without requiring further discussions; however, in the case of oil and gas development it tended to leave residents dissatisfied. Often, residents' concerns were unaddressed:

I mean the only thing that came out of that is I became aware of what the real numbers were and that it was a commercial site but nothing else came out of it. (Interview 10, 20994)

Notably here, uncertainty about science was reduced, even for residents, but not concern over impacts. One resident told me,

I got to a point where it was bad enough that I really needed to put in some more complaints but I didn't because from my previous experience. (Interview 11, 5812)

In both of the interviews from which the above quotes were taken, these sentiments were expressed despite companies adopting additional measures that attempted to control sound. Thin participation worked as intended—it informed the drilling process. Thin participation programs are not intended to address values or provide deliberative forums.

How are the 13 cases where I identified engagement via the complaint process different? Not only did scientific studies fail to provide an immediate solution for companies, but, in viewing all 13 cases where engagement occurred, institutional arrangements played a critical role in structuring incentives for firm engagement. The crux of the proposition is that an incentive or dependency forces consideration of resident complaints beyond a basic acknowledgement.

Use Agreements with Landowners: The Case of Huerfano County

Huerfano County is located in Southeastern Colorado. Notably, the Huerfano case demonstrates strong institutional elements including landowner mediated surface use agreements and permits with county government.

The complainant I contacted was a surface and mineral rights owner who felt that the operating company degraded the natural landscape and threatened her water supply. The complainant and the operator had driven around the site during the planning stage and discussed plans early in the development process, but, fearing damage to her property she set up a meeting with a State representative. This initiated the complaint process.

I met him (COGCC Employee) in Gardner and I had shown him some pictures.... So I showed him everything. He told me at the conclusion that, "I needed to talk with personnel." (Interview 12, 18317)

	Garfield		Garfield		Garfield		Huerfano	Weld	Weld	Weld				Weld	Weld			
	Battlement Mesa		Silt		Uninc.		Uninc.	Erie	Firestone	Mead				Uninc.	Windsor			
Interdependence	0	1	0	0	1	0	4	0	0	0	1	0	0	1	0	0	0	Drivers
	2	0	0	6	1	1	4	0	0	0	0	2	0	2	0	1	1	
Consequential Incentives																		
Surface Use Agreements	0	0	1	0	2	2	2	0	0	0	0	0	0	1	0	0	0	Institutional Arrangement
Regularly Scheduled Meetings	2	4	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	
Payments for Oil and Gas	0	0	0	0	0	0	2	0	0	0	0	1	0	5	0	0	0	
Local Government/County Land Use	1	2	0	1	0	0	0	2	0	0	0	0	0	0	1	0	0	
Engagement VMPs	3	4	0	0	0	0	0	7	0	0	0	0	0	0	1	1	0	Principled Engagement
Principled Engagement	4	9	0	10	2	11	18	1	0	1	0	2	3	10	0	7	1	
Discovery	1	1	0	1	0	8	6	1	0	0	0	1	2	2	0	2	1	
Determinations	2	4	0	5	2	1	7	0	0	1	0	1	0	3	0	3	0	
Deliberation	1	4	0	4	1	1	4	0	0	0	0	0	0	8	0	3	0	
Definition	0	1	0	0	0	3	1	0	0	0	0	0	2	2	0	2	0	
	13	16	14	17	7	9	12	5	3	1	10	11	8	2	15	4	6	
Case ID																		

Figure 2. Counts of excerpts tagged with each concept, organized by case ID specific to the interview, the county of the interview, and the specific town of the interview.

Figure 3. A framework for thin design, indicating how participation might be kept thin or expanded to enable thick engagement.

The complaint filing itself was face-to-face at this in-person meeting. COGCC contacted the company, sent out a site investigator, and levied a violation on the company for working outside permit guidelines. The Huerfano County commissioners later cited these violations, and advised the company that they “should act as good neighbors,” threatening to make future weed control permitting more difficult. This leads to a second proposition:

P2: Thin participation that implicates misdeeds can motivate non-governmental actors to thicken engagement. Therefore, thin participation that alerts a coercive power will encourage thicker engagement.

Subsequent events demonstrated the properties of discovery, deliberation, and determinations. The complainant hired an external expert and met with the company. She described this meeting as the start of a functional relationship (Interview 12, 27950). Later, “He asked me ... to dinner with him and we kind of agreed that we could we could try to see if we could work together” (Interview 12, 27950).

The interviewee recognized complaining as critical to engagement. The company had to be motivated by enforcement action. These enforcement actions were then cited by the county as evidence of bad faith. In this instance, a risk to continued development encouraged partnership. Coercive pressure and the reliance on the

complainant created an incentive for considering complainant values or otherwise potentially forgo future contracts.⁶

The complaint did not solve the problem, but as thin participation, it brought COGCC and Huerfano County into an ongoing conflict between the landowner and the operator. The relationship between the firm and resident predated the complaint but the complaint fostered new incentives. This is a feature also observed in the second case which follows, though I lay out a broader proposition here that goes beyond coercion.

P3: Thin participation that expands the number of aware jurisdictions is likely to trigger interdependencies and incentives that drive thicker engagement in response to participation. Therefore, thin participation that directly involves multiple governments is most likely to foster thicker engagement.

Use Agreement with Local Governments: The Case of Battlement Mesa

Battlement Mesa, Colorado sits in Garfield County in western Colorado. When oil development restarted in the early 2000s, Garfield County, having had a previous oil boom in 1970s, quickly initiated an Energy Advisory Board and worked with companies to establish regular meetings with residents (Jacquet 2014). Thus, public engagement was an ongoing corollary to development within Battlement Mesa itself. Essentially, any resident concerned about oil and gas had ample opportunity to engage. Why complain then, especially if residents felt complaining was ineffective?

As a planned unit development, land use changes in Battlement Mesa, such as drilling a well, had to be approved by the county commissioners (Colorado Chapter of the American Planning Association 2012). I interviewed two Battlement Mesa residents. They regularly attended firm-led meetings and reported agreements in those meetings (which I code as determinations). However, *these agreements were not a direct product of complaints*.

Battlement Mesa complainants instead cited their complaints in ongoing meetings and discussion, having developed their own complaint system to streamline submission to the State. Rather than initiating engagement, citizens used the volume and subjects of complaints as evidence. Note here again, thin participation

is not independent of other participation opportunities or active collaborations.

P4: Thin participation that remains as such can provide evidence for preexisting and/or future thick participatory processes. Accordingly, recording and publishing participatory actions is a way of expanding the potential benefits of thin participation.

Based on evidence from Battlement Mesa, complaints, combined with ongoing citizen engagement, helped to change practices.

It's because we would go to the meetings, the county commissioners' meetings. And we would write letters, we would actively send in complaints ... we would insist on community meetings. We wanted to know what Ursa was doing—so they've been good about having regular meetings. (Interview 16, 22137)

Ursa's meetings provided information to the Battlement Concerned Citizens (BCC), a grassroots name for their group. The BCC developed a system that streamlined reporting to the county and the State (Conversation with BCC Member, October 2016).

So that's why we developed a log to describe what you were smelling. When you smell that what direction was the wind? How long did it last? How did it make you feel? And all of those things. Then (we) began to realize, well, this is what we really need because we need to be able to say these things are happening.... Because what we were looking for was information. What's causing these odors? What are they? Are they good for me?" (Interview 16, 26670)

Here, citizens expressed lack of knowledge (uncertainty). As expected given existing literature, uncertainty motivated complaining. But complaining was also a tool. One odor complaint is easily dismissed, but one hundred might motivate the State to consider citizen concerns.

Drilling still happened in Battlement Mesa, but, "they have to do a lot of mitigation" (Interview 16, 18439). Complaints in Battlement Mesa were cited as a rationale for one of the most comprehensive oil and gas air quality studies in Colorado.

Complaints in Garfield County did not promote thick engagement alone but instead documented concerns. Documentation worked as a tool within other participatory structures. Despite a lack of violations, the volume of complaints provided evidence of citizen concerns and passed information to citizens which they could use in other processes, thickening alternative forums.

⁶ The complainant's surface use agreement with the company meant that she had standing in informing the county's decision to accept or reject permits on the site, but, the authority of government to coerce the firm promoted a change in the relationship.

Where Public Management Went Missing: The Case of Mead

Mead, Colorado is a town along I-25 in Weld County north of Denver. Of my interviews, half were with residents of Weld County (matching gas production in the state). Four of the individuals I interviewed lived within the official boundaries of the town of Mead (DeNavas-Walt, Proctor, and Smith 2010). Three of the four complainants in Mead had never talked with firms, so there was no existing engagement process.

All four individuals in Mead described filing a complaint as ineffective at addressing the issues at the well sites. Where citizens complained, COGCC investigated, and firms took actions in response—this is documented in the State records. Yet residents perceived these changes as small relative to the burdens of sound, vibrations, and odors.

Unlike in previous cases, there were no preexisting institutions creating interdependencies or requirements for conventional/collaborative participation. The patchwork nature of local government jurisdictions in Weld County complicated the citizen participation process. At the time of the complaints, Weld County did not have a government official representing citizens to the State regulatory agency so there was no local government participation. Moreover, most of the complaints were about wells just outside the municipal boundary of Mead. The common thread of the Mead complaints was a lack of relevant interdependencies or consequential incentives.

Just down the road in Erie, Colorado, the operating company agreed to address complaints through agreements with the city. Here, there was not an ongoing engagement process but local government provided a path to using complaints. In the area surrounding Mead, there were no local officials who could participate in remedying complaints or leverage their submission. Across Colorado, the Mead complaint experience is the most common. Complaints often are simply a thin method of providing knowledge to firms and governments. However, the processes that developed in Huerfano and Garfield County indicates a potential for a thick process emerging from a thin design, or, a thin process furthering engagement in a preexisting engagement process.

Notably however, the complaints themselves remained thin. Thickness was a product not of design but instead resulted from the use of complaints to transform existing processes, introduce new jurisdictions into discussions, or create new incentives for engagement. Yet, the implication here is also that complaints are much more involved than a simple two-way communication process. The thickness following complaints was structured almost entirely by rules and engagement outside of the complaint forum itself. Essentially, statutory definitions did not determine the

level of engagement following a complaint. The design limited and/or constrained the content of a complaint, but existing institutions and interdependencies determined whether further engagement followed.

Discussion

The four prior propositions indicate two key criteria for how thin a process will remain. The design of participatory processes must consider content of discussions and institutional rules-in-use. Figure 3 provides a framework for design that connects the major propositions.

The design element of proposition 1, *thin participation that generates measures/facts is likely to suppress values oriented engagement* is about the content of thin participation. Scientific assessment provides yes/no answers as to whether actions should be taken obviating any need for engagement. Sound tests, water tests, and air quality tests were commonly used to investigate complaints. Values are intentionally removed such tests, therefore, the prospect of principled engagement should be more suspect. Research on analytic-deliberative processes might indicate science should enhance engagement, but, these perspectives are largely based on conventional and thick participatory cases (Dietz 2013; North et al. 2014; Rosa, McCright, and Renn 2013; Webler and Tuler 2006). Given no requirement to deliberate, science might instead provide quick solutions. These solutions allow achieving standards without putting capacity into enhancing engagement. For some designs, content limits might then be useful in constraining values-based debates.

But, sometimes there are benefits to allowing enhanced engagement. Policy design can encourage thick engagement through direct involvement of actors with coercive powers. This can be leveraged in design: *thin participation that alerts a coercive power to faults will encourage thicker engagement*. A question here might be why, given all options, would a firm or other actor choose to further engage?

By directly engaging, firms can potentially limit or provide an alternative avenue of dispute resolution—this is something firms often did to varying degrees in the cases cited here. Creation of a coercive potential requires rules. As these rules might not be part of the thin participatory program design, designers of such programs could require thin participation such as complaints be communicated to relevant authorities. This could potentially alert an actor with the potential to coerce.

A unique aspect of thin participatory programs is the introduction of new actors who can effectively trigger different incentives or motivations. These actors might introduce interdependencies that are unknown to the forum designer. Purposeful involvement

of multiple jurisdictions is thus a design pathway to thicker engagement, that is, *thin participation that directly involves multiple governments is most likely to foster thicker engagement*. Participation can facilitate engagement of other governments. As more powerful actors are forced into discussions, new incentives and interdependencies are likely.

Finally, residents saw complaining to the State as a repeating game where complaining in one venue might enhance capacity for change in another. Policy design can leverage this as well: *recording and publishing participatory actions is a way of expanding the potential benefits of thin participation*.

Complaints do not happen in a vacuum. Citizens do not enter into thin participation with the expectation they are providing information with no benefit but instead they recognize that information might be used in other, thick engagement processes. In Colorado, individuals I interviewed recognized that the regulating agency had power to allow or disallow actions through rulemakings and inspections. While this might not occur immediately, there was an understanding that participation now might matter for future, thicker engagement processes. But this is expected, as participation can have lasting impacts beyond immediate outcomes (O'Rourke and Macey 2003). Thin participation programs are not limited to their immediate application but create records and evidence for ongoing and future thick engagement processes.

Conclusion

Engagement processes are shaped by institutional incentives and constraints placed on actors, the number of actors with institutionalized roles, and the content of the discussion. Moreover, they are not necessarily limited by participatory design. Despite the thin participatory design of the Colorado complaint system, some complaints, perhaps those that were most useful for governance, facilitated thickening. Complaints themselves are not thick. The process after the initial complaint submission is shaped by the content of that initial complaint and the institutions that make use of that content. Just as collaborations can form in a grassroots manner, thin participatory forums can also facilitate thick engagement. They are likely to do so when thin participation does little to mitigate government/firm uncertainty, or when thin actions cause the realization of institutionalized incentives or interdependencies.

While in this article I provide propositions for how thin participation might foster thick engagement, the broadest lesson here is that both the scholarly and practical identification of thickness of practice should not be based on statutes, documents, or even definitions

alone. Thin programs need not stay thin, and their largest impacts may even be in areas where they foster principled engagement. Realizing the potential for institutions to shape participatory outcomes can hopefully foster program design that recognizes both the opportunities and pitfalls of thin designs enabling thick engagement.

Supplementary material

Supplementary data are available at the *Perspectives on Public Management and Governance* online.

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Conflicts of Interest

None reported.

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