In this paper we discuss one practice of social design and social innovation by which designers and participants work together to reveal the factors, relations and consequences of an issue. We refer to this as the collective articulation of issues. Within the context of social design and social innovation the articulation of issues takes on a distinctive character and can be manifested through a wider range of design engagements than previously considered. To support our discussion we analyse two design engagements from the growBot Garden project, a research project exploring technologies for small-scale agriculture. Through this analysis we identify the qualities of the event and pluralism as central to the collective articulation of issues. We argue that the collective articulation of issues is a foundational practice of social design and social innovation, comprising an outcome and purpose in its own right.

Keywords: articulation; issues; publics; participatory design; agriculture

1. Introduction

Social design and social innovation offer new avenues for design. They also challenge some common conceptions of design practice and purpose. Work in these domains regularly includes activities of organising, facilitation, education and advocacy. In some cases, the work of social design or social innovation is entirely comprised of these activities, without the familiar ends of products or services. In such situations, what are the methods and outcomes of design? What are the desired effects and the designerly tactics by which those effects are pursued? How do we differentiate these activities from those of political mobilising or community building? These questions, among others, should motivate research into social design and social innovation in order to better understand and frame these practices and purposes.

In this paper we discuss one practice of social design and social innovation by which designers and participants work together to reveal the factors, relations and consequences of an issue. We refer to this as the collective articulation of issues. Articulation is not a new topic to design. But within the context of social design and social innovation the articulation of issues takes on a distinctive character and can be manifested through a wider range of design engagements than previously considered. Moreover, we argue that the collective articulation of issues is a foundational...
practice of social design and social innovation, comprising an outcome and purpose in its own right.

In what follows we present two engagements from an ongoing design research project as examples of the collective articulation of issues as a design practice. From these, we sketch a description of the practice. Central to this practice is the notion of the design event and the character of pluralism that is enacted through these events. We begin with a bit of background on social design, social innovation and articulation, and then set the context for our engagements.

2. Social design, social innovation and articulation

Social design and social innovation are terms used to label a broad range of projects. At times these terms are used indiscriminately, so it is worth briefly probing each of these terms and then clarifying how we use them in this paper. In their paper ‘A social model of design: issues of practice and research’, Victor and Sylvia Margolin outline a vision for design that extends beyond mere service to industry to include ‘a model of product design for social need’ (2002, p. 24). Taking cues from environmental psychology and social work, they describe a way of doing design that would engage with societal issues to initiate change and support equity. As they note, this idea is not new or unique. Its most conspicuous antecedent is the work of Victor Papanek (1985). However, as they also note, despite the fact that the idea of social design may be decades old, it has received little attention from design research, education or really even practice, remaining for the most part a relatively marginalised and ad hoc endeavour.

Social innovation provides another perspective on the use of design for social need or societal good. As François Jégou and Ezio Manzini succinctly state, ‘The term social innovation refers to changes in the way individuals act to solve a problem or generate new opportunities’ (2008, p. 29). Social innovation thus refers to both a process and an outcome. A key characteristic of social innovation is that it does not take its lead from technological innovation. Instead, it strives to ‘identify promising cases, use design sensitivities, capabilities and skills to design new artefacts and to indicate new directions for technical innovation’ (Jégou and Manzini 2008, p. 41). It is worth noting that the term social innovation is well used outside the design community. Although designers are increasingly involved in social innovation, it is a term just as likely to be used in government, policy or entrepreneurship sectors. The significance of this is that social innovation extends design, and thus extends social design.

In this paper we will use the phrase ‘social design and innovation’. What we are referring to is the use of design within the processes of social innovation, recognising that social innovation does not necessarily have designed products or services as the outcome. Admittedly, these notions of social design, social innovation and their relations to one another are awkward and amorphous. This is what leads to research questions such as the one posed by Margolin and Margolin: ‘What role can a designer play in the collaborative process of social innovation?’ (2002, p. 28). One answer to that question is that designers can facilitate and participate in the collective articulation of issues.

Articulation is not a new concept to design, but it can take on new meaning and form in the context of social design and innovation. Within the field of computer supported co-operative work (CSCW) there is a substantial amount of research
examining the processes of articulation in work practices and how to design systems to support those processes (for an introduction to CSCW, see Schmidt and Bannon 1992). In this research, articulation usually refers to the ways in which work activities are arranged and co-ordinated. This is not restricted to computational systems. Studies of articulation and corresponding designs in CSCW are deeply informed by broader studies of work environments, practices and corresponding theories, most notably the work of Anselm Strauss (e.g. Strauss 1985). This research is important to social design and innovation, but in this paper we draw from a different body of scholarship concerning articulation.

Within the humanities the term articulation is used to describe the ways in which novel cultural forms develop through appropriation and recombinatory practices (e.g. Hall 1986). For example, in the canonical cultural studies text *Subculture: the meaning of style*, Dick Hebdige discusses how the styles of subcultures develop from a borrowing and mixing of aesthetics across class and race divisions (1979). Articulation is also used as a way of framing political structures and processes, particularly in relation to hegemony. Political theorists Ernesto Laclau and Chantal Mouffe characterise articulation as the making of discursive ‘chains of significance’ between what would otherwise be disparate elements, in order to assert or resist power (2001). What all of these notions of articulation share is a constructive quality: articulation is a productive process that occurs through forming or revealing associations and attachments. These notions of articulation from the humanities are particularly useful to design because they emphasise the creative and political aspects of articulation. In addition, through them articulation can be understood as a process of discovery and invention: by understanding the articulation of a social phenomena or structure we can identify opportunities for interventions or setting new trajectories.

What articulation does is work to reveal the factors, relations and consequences of an issue. As Jégou and Manzini point out, in addition to designing products and services, social innovation is a process of identifying promising cases and indicating new directions for technical innovation (2008, p. 41). It is through the revealing of factors, relations and consequences of an issue that promising cases are identified and new directions for technical innovation are discovered. Our claim is that the articulation of issues thus provides base material for social innovation. Moreover, the collective articulation of issues adds an important component: it adds a character of openness and participation to the endeavour of social innovation.

### 3. Project background

As examples of the collective articulation of issues, we present two design engagements that worked to reveal the factors, relations and consequences of technology design for small-scale agriculture. These examples are drawn from an ongoing research project, which provides a platform to prototype and experiment with new forms of public and participatory social design and innovation. Entitled ‘growBot Garden’, the project is structured as a design-based inquiry into the use of robotics and sensing technologies in the context of small-scale agriculture. To date, the project has run for 18 months and includes three workshops, two public events, and more than a half-dozen visits and volunteer activities on local farms, as well as seven days of workshops, demonstrations and a public exhibition at the 2010 01SJ Biennial, in San Jose, California.
The term small-scale agriculture is nebulous. It is generally used to characterise a context and entwined set of farming and food practices that contrast with mainstream Western agriculture. Consider that in the USA the average size of a farm is 418 acres (approximately 170 ha) (USDA 2010). To maintain a farm of that size (or larger) requires certain practices, such as the standardisation of fields and crops, the use of pesticides and considerable work crews. In other words, it requires an industrialised approach to food production. While there are no hard and fast size boundaries for what counts as a small-scale farm, what characterises small-scale agriculture is a less industrial approach to food production. This is often exemplified by more opportunistic crop placement and a greater diversity of crops, with the farming operations maintained by a single individual or small group of workers. The term small-scale agriculture extends beyond plant-based crops to include meat- and dairy-based agriculture, and also encompasses small-scale food production such as cheese and sausage making, wine, beer and spirits. Often, though not exclusively, small-scale agriculture also implies an organic approach to farming and food and an emphasis on establishing, maintaining and promoting sustainable food systems.

Drawing together small-scale agriculture with robotics and sensing technologies provides distinctive opportunities for design-based inquiry. On the one hand, there is a long history of ‘the future of farming’ projects that have conducted speculation and research into how technologies might affect farms and farming. This ranges from works of science fiction to computer science and engineering projects developing all manner of automated farming machines and monitoring systems. Agricultural sensing and robotics are well-established fields of research and well-developed markets, with decades of knowledge and products. While there is already a cultural imaginary of agricultural technology to work with, the overwhelming majority of these futures visions, engineering and computer science research projects and commercial products assume an industrial mode of farming and food production. That is, the cultural imaginary of agriculturally technology does not extend to small-scale agriculture – but there is no reason why it should not. Drawing together small-scale agriculture with robotics and sensing produces a situation of productive tension, in which the opportunity for radical imagination, design and innovation is present, but has yet to be achieved. One objective of the growBot Garden project, then, is to work together with the small-scale agriculture community to co-design new cultural imaginaries of agricultural technology. Articulating the factors, relations and consequences of technology design for small-scale agriculture is a first step, because through that articulation existing limitations and future potentials are identified and expressed.

4. Ag-Tech Movie Night: collective probing of imagined futures

As previously noted, the future of farming is a topic with a long history, much of which has been documented via film and video. As part of our formative research into designing technologies for small-scale agriculture we were curious to know how the small-scale agriculture community would perceive these imagined futures. In addition, we reasoned that viewing depictions of agricultural technology together might spark a lively and informative discussion and serve to build rapport. So, in the early spring of 2010, we hosted an ‘Ag-Tech Movie Night’ at an independent coffee shop and invited members of the local small-scale agriculture community to attend. The focus of the evening was the screening of a 60-minute collection of video clips
depicting agricultural technologies – both real and imagined – from the 1960s to the present. The collection was assembled from excerpts from industrial and academic videos of agricultural robotics and automated food production systems, speculative architecture projects, and television programmes, movies and cartoons. In curating the reel, the clips were selected and sequenced to present a diversity of perspectives on agricultural production and the role of technology in agriculture.

Participants were recruited online through social media and direct emails. In the end, over 50 people attended the Ag-Tech Move Night. Of these, approximately 30 were members of the small-scale agriculture community and the remaining attendees were members of the research team and interested members of the university community. Key to the evening was discussion: we wanted to talk about these futures of farming and food production with this community – to hear their perspectives, share our perspectives, reveal desires and concerns, and engage in dialogue. From our background research, we knew that Twitter was a channel that many in this community used. For instance, there is a weekly chat on Twitter that uses a designated hashtag as a forum for farmers of all varieties (small-scale, industrial, organic, and not) to ask and answer questions about agricultural technology. Inspired by this, as part of the screening we devised a way to host and share a real-time text chat about the video clips. We constructed a simple dual-screen display: on one display the video reel was projected and on the other was projected a real-time feed of an SMS-based discussion of the clips (Figure 1).

Throughout the screening, the SMS channel was actively used by participants and researchers and proved fruitful, as both could ask questions and make comments in a public space without interrupting the viewing. For example, researchers could ask ‘What do you think of that?’ and garner immediate responses. Many of the attendees were quick to post comments such as ‘I’ll take one of those tomorrow’ or ‘Not on my farm’. More than providing any specific insights, the format of the dual-screen display and SMS channel created an atmosphere of quick and raw exchange, as questions and answers and comments darted across the screen in response to the video clips.

Figure 1. Dual-screen display at Ag-Tech Movie Night.
This atmosphere of open reflection and dialogue continued after the screening, when the event shifted to a loosely moderated discussion. Attendees enthusiastically shared their thoughts regarding the video clips. Many of the responses were critical. The criticism, however, was not of the notion of agricultural technology generally, but rather of what they perceived as the limited way that the practices and environments of farming were portrayed. The members of the small-scale agriculture community were quick to point out that their farms are ‘not like’ the farms depicted in the clips and that the majority of the technologies presented would ‘not fit in’ with their farming environments and daily activities. In some cases, this lack of fit was literally due to size. In other cases it was due to configuration (e.g. assuming a uniform crop placement as is standard on industrial farms but atypical on many smaller farms). In still other cases, this lack of fit was practice oriented, such as forgoing the use of pesticides. While the majority of their responses were self-referential, they also commented on some of the ideas presented more generally, again tending to emphasise the applicability of the concepts. For example, one clip presented a concept for expansive vertical gardening for urban food production using skyscrapers. Attendees were quick to point out this concept assumed a kind of architecture that is not found in all cities and they questioned how this might work in cities with few, or no, skyscrapers. Not all of the discussion was critical. Some attendees responded positively to several of the technology concepts presented within the clips. For instance, the idea of robotic exoskeletons that could increase their capacities for heavy labour received positive feedback from many attendees, as did the idea of using sensor networks to aid them in making decisions about fertilising and watering.

As the evening progressed, the discussion shifted towards considering ways to address the lack of fit between agricultural technologies and small-scale agriculture and how we might work together to co-design alternative futures of farming. It was in this discussion of possible collaborations that the most critical perspectives emerged. One attendee asserted that, despite whatever good intentions there might be in a co-design endeavour, it would be the very corporations that tended to ‘worked against’ small-scale agriculture who would make use of this research for their benefit. His belief was that any innovation that was developed would likely be co-opted and used in ways that were counter to the interests of the community. This assertion generated a vibrant discussion, which frankly never reached a resolution. But it did bring up important points of consideration when working in this domain. The first of these is that there is a component of this community that perceives that there is hegemony of farming and that small-scale agriculture is an outsider, if not oppositional, practice. The second of these is the belief that researchers and universities are, for some, complicit in this hegemony, regardless of their intentions.

Through the screening event, issues concerning technology design for small-scale agriculture were thus revealed and engaged. Specifically, the various notions of ‘fit’ between agricultural technology and small-scale agriculture were brought into relief, as were concerns about the dynamics among research, agri-business and small-scale agriculture. How these issues were brought into relief is important in understanding the collective articulation of issues as a design practice. In effect, the Ag-Tech Movie Night functioned in a manner similar to the design research methods of cultural probes (Gaver and Dunne 1999) and playful triggers (Loi 2007). What is distinctive about cultural probes and playful triggers is that they tend to employ tactics of
provocation, often involve creative effort or work, and are intended to provide inspiration more than empirical data. In a similar manner, the Ag-Tech Movie Night worked to elicit responses about the perceived feasibility and desirability of a technological domain. Like probes, the basis for that elicitation was reaction to designed objects. In the Ag-Tech Movie Night these designed objects were multiple and nested, including the individual representations of products within each clip, the curated reel of video clips, the dual-screen display and SMS system, and the format of the evening itself. Although there are similarities to probes, there are important differences as well, which mark the Ag-Tech Movie Night as a distinctive kind of design engagement. Specifically, those involved were not cast simply as potential users or representatives of potential users but, rather, as potential cohorts in co-design. And, too, the designers were present and active in this endeavour of elicitation and response.

5. Regional Organics Conference: public engagement and conversation as iterative form

In the late spring of 2010 (approximately two months after the Ag-Tech Movie Night) we took part in the annual Georgia Organics Conference and Exposition. This conference is one of the largest of its kind in the south-eastern USA. It is attended by farmers, other food and beverage producers such as cheese makers and brewers, chefs and restaurateurs, and a wide range of businesses that serve the organic food communities, such as fertiliser providers, seed exchanges, toolmakers and even national food distributors. As part of the conference, we registered as vendors and rented a table in the vendor exhibition hall. Attendees to the exposition thus encountered the growBot Garden project alongside all of the other products and services on display for the organics community.

In the vendor exhibition hall we were assigned a booth and set up a table with a large sized monitor, on which we played the aforementioned video reel on the future of farming on a continuous loop. We also set out simple handouts describing the growBot Garden project. As attendees stopped by the booth, we greeted them, introduced ourselves as designers and researchers, and then prompted them with the question ‘What would your growBot do?’ Invariably, this surprised the attendee and usually sparked a conversation about robots, sensing and small-scale agriculture, through which we elicited ideas for the use of said technologies. As we were chatting, we would ask each attendee to write down or sketch their idea on a stack of 4 by 5-inch (approximately 10 by 13 cm) heavy paper cards and we would then take a picture of them holding their cards using a Polaroid™ camera. These cards and the pictures were put on display in our area for other attendees to see. Slowly, but steadily, these cards and pictures accumulated in our booth over the three-day duration of the conference.

As part of our self-presentation we had brought along several small, 1 square foot (0.3 m), chalkboards on which we wrote messages about the project. The use of the chalkboard was intended to set us apart from other vendors – who tended to have more professionally produced signage – and to express a hands-on, decidedly unfinished sort of aesthetic. One reason for adopting such an aesthetic was to make the subjects of robots and sensors, and our own identities as university researchers, less formal and more approachable. In addition, this aesthetic set a tone for what we were asking of attendees: not to produce refined ideas or sketches, but rather ideas...
and sketches that were spurred of the moment and rough hewn. We had initially considered that the chalkboards would be fairly static design props. Instead, they became dynamic platforms. For example, as the conference progressed more and more attendees asked questions such as ‘What kinds of robots do you make?’ or ‘Where are your robots?’ In response to this, we changed one of the signs from the name of the project to the statement ‘We make conversations, not robots’.

This use of the chalkboards to adjust our self-presentation on the fly became a frequent occurrence throughout the conference, as we engaged more and more attendees, fielded more and more questions, and received more and more feedback. The rewriting of these messages on the chalkboards also had an effect of luring people to our booth. As attendees would walk by they would ask ‘What are you writing?’ and we would respond, telling them how we were clarifying this point or another. This usually resulted in further questions, leading into a conversation, generating and sharing ideas, and often spurring yet another change on another chalkboard.

Throughout the three-day conference and exposition we were engaged in both collaboratively exploring how to talk about robotics and sensing technology with the small-scale agriculture community and also collaboratively imagining what the uses of those technologies might be. That is, we were concomitantly exploring the meanings of robotics and sensing and iterating on the possible applications of those technologies. For example, attendees would ask what we meant by a robot, and we would respond, and they would respond by making suggestions for uses of robotics, building on our answer. This recursive cycle of engagement–response–adjustment–engagement–response–adjustment became a vital component of the project. Though informal, design was occurring through these events as ideas were proffered, rejected, iterated upon and refined.

As with the Ag-Tech Movie Night, there were multiple designed components to this engagement. We had to create an environment that facilitated dialogue and ideation about sensing and robotics, while also expressing an awareness of and respect for the culture of small-scale agriculture. Taking lessons from the Ag-Tech Movie Night, we had to communicate that our intentions and practices would ‘fit’, or at least would not contrast with the community’s practices and values. In part, our visual and material aesthetic choices were moves in this direction. But perhaps of even more significance was the emergent appearance and organisation of our booth. One aspect of this was the regularly changing signage (via the chalkboards). Another aspect was the idea cards and Polaroid photos display. As more people participated in this activity and more idea cards and Polaroids accumulated in the space, more attendees were attracted to the booth. Part of this attraction was an interest in the ideas. But an equal part seemed to be a desire by attendees to have their own ideas and pictures included in the developing discussion, to be present in the discourse. As idea cards were posted around the space, they became fodder for other ideas contributed by attendees, producing an evolving layering of concepts and co-design (Figure 2). In addition, from the overlap and repetition of ideas, we were able to glean salient themes that reinforced the articulation of factors in technology design for small-scale agriculture. For example, time and again farmers expressed that technology developed for sustainable agriculture must itself be sustainable; thus making explicit a desire to have materially instantiated reciprocal relations among their values, practices and tools.
6. Discussion: the collective articulation of issues as design event

These engagements serve as examples of the articulation of issues as a design practice that contributes to the processes and ends of social innovation. In these events one could witness the discovery of the conditions of small-scale agriculture and the consequences of those conditions to the design of agricultural technology. Throughout the events, notions of progress, expertise, trust and the politics of farming and design were brought to the surface. Both possibilities for design and traces of the exclusionary effects of design were expressed. For example, with the Ag-Tech Movie Night, almost unanimously, small-scale farmers expressed disconnect between the values and practices inherent in many current designs shown in the videos and their own values and practices. Some participants cited industrial farming generally as the source of this fissure. Other participants expressed more specific divides between the technologies seen in the clips and their farms. For instance, several farmers noted that technologies for so-called ‘precision agriculture’ would seem out of place in their decidedly non-precise small farms. Their interest in possibly utilising new technologies was tempered by very pragmatic concerns about the time required to learn these technologies and what disruptions that might cause to their farming. Several participants expressed anxiety about our research simply being exploited by larger farms and corporations in an attempt at ‘greenwashing’. At the same time, many participants expressed interest in technologies that would assist them in their daily farm labour and inform their choices and decision making. Likewise, the interactions at the Georgia Organics Conference and Exposition functioned to draw out a multiplicity of conditions, desires and possibilities, many of which echoed those from the Ag-Tech Movie Night.

Taken together, these engagements provide insight into the general quality of the collective articulation of issues as a design practice. Although each engagement was distinct in its form and materials, they share a quality of eventfulness. Each can be considered as a designed event, or perhaps better stated, each can be considered as an example of design as event. As events, these engagements draw upon a distinctive set
of design factors, including the choice of the locale, the arrangement of the space within that locale and the temporal orchestration of the event itself. Like any design factor, each of these enables and constrains participation generally, and the articulation of issues more specifically. For example, the organics conference as locale constrained the design space to particular agricultural and food practices.

As an event, the collective articulation of issues is similar to other design practices informed by drama. These practices also explore the orchestration of the material environment, dialogue and action in order to facilitate various stages and activities of design. For example, Brodersen and colleagues have explored ‘staging’ for participatory prototyping, which involves the ‘selection and coordination of anchoring elements that maintain references to current practice and elements of transcendence that afford the imaginative place’ (2008, p. 19). Even closer in context, Buur and Larsen have investigated how conflict and difference are productively expressed through conversation in dramatic charettes and how this contributes to innovation (2010).

The significance of a collective approach to the articulation of issues should not be underestimated. In each of these design events, researchers and participants worked in concert, in the moment, in a shared space, posing, answering, responding to questions and offering ideas in a dynamic exchange. At both the Ag-Tech Movie Night and the Organics Conference and Expo, technical definitions, descriptions of work practices and environments, motivating values, and the politics of research and design co-mingled in the dialogue between researchers and participants. As a result, the identity, topic and scope of the project developed in real time. Through these exchanges, the immediate concerns, future hopes, practicalities such as labour, expense and time, together with deep desires for more a sustainable society, were drawn out and documented. Thus, this endeavour of discovering connections between the varied factors of technology design for small-scale agriculture was undertaken collaboratively, as a kind of co-operative inquiry.

The collective articulation also enacts a particular character of exchange that is in keeping with underlying tenets of social design and social innovation. Although it is not a given, it is generally considered that one aspect of social design and social innovation is reformulating design away from authorial stances. Instead, social design and social innovation tend to embrace an ethos that is more indebted to co-design and participatory design than to the traditional fields of design and innovation. Although perhaps obvious, it is important to note that this endeavour of collective articulation was not just among designers, engineers and researchers, nor just among small-scale farmers and associated stakeholders, but instead among an ever-changing conglomeration of all of those identities. This endeavour of collective articulation occurred through what Michel Callon has appropriately called a ‘hybrid community’, comprised of novices and experts alike, across multiple fields, of both ‘communities of practice’ and ‘epistemic communities’ (2004). Within this hybrid community authority was distributed, tacit knowledge was given value, and the critical was balanced with the appreciative and co-operative. So, for example, when these small-scale farmers challenged the need for pesticides or shared low-tech forms of environmental monitoring, or when the very outcomes of co-design were problematised, these perspectives were fully folded into the developing discourse. As a result, design remained present throughout, but neither designers nor design knowledge was valorised above any other form of knowing or acting. In addition to
eventfulness, then, the collective articulation of issues as a design practice is distinctive because it enacts a quality of pluralism.

7. From the collective articulation of issues to what?
Some might question whether the collective articulation of issues is a design practice, particularly in the absence of any familiar form of product or service. But in the context of social innovation does design need to result in a product or service? Following from Jégou and Manzini, a worthwhile contribution to social innovation can be made through design by ‘identify[ing] promising cases’ and ‘indicate[ing] new directions for technical innovation’ (2008, 41). Perhaps we should consider the collective articulation of issues as a service provided through design; a service that works to provide base material for social innovation. It does this by revealing the factors, relations and consequences of an issue from which promising cases are identified and new directions for technical innovation are discovered.

With regard to our work exploring the use of robotics and sensing technologies in the context of small-scale agriculture, these events and the collective articulation of issues have had multiple effects. They have allowed us to begin to document the constellation of factors in designing technologies for small-scale agriculture. We are working to translate these findings into accessible forms for dissemination, which might inform others in the development of appropriate products and services for small-scale agriculture. In addition, they have provided insight into the multifaceted beliefs and desires of this community, enabling us to better develop future engagements with this community. Drawing from these experiences and effects, then, the collective articulation of issues might be considered as a kind of formative research through design.

With regard to future work, we might also consider another other purpose of the collective articulation of issues: the formation of issue-oriented communities or publics. Recently, some researchers in design have drawn on the work of John Dewey (1927) and his notion of ‘publics’ to characterise certain social formations and action (Binder et al. 2011, Björgvinsson et al. 2010, DiSalvo et al. 2008, DiSalvo 2009, Ehn 2008, Le Dantec et al. 2010). According to Dewey, publics form around and through issues, in order to address the issue both in its immediate form and in terms of its possible future consequences. The collective articulation of issues could, thus, be a means of binding together a group of concerned and committed people to take action on an issue. For instance, although the events of the growBot Garden project may fall short of constructing a viable public, one can imagine how the practices described in this paper might coalesce a group to be involved in a longer term project of rethinking and redesigning technologies for small-scale agriculture.

8. Conclusion
As social design and social innovation gain ground as a kind of design, it is important for research to probe the practices and purposes of this work. This research should, then, provide new ways of describing and analysing such projects, and hopefully too, provide concepts and techniques that can be employed in future projects. In this paper we have presented and discussed the collective articulation of issues as a design practice. Our intention in doing so was to contribute to research on social design and social innovation, specifically to offer one answer to the question
‘What role can a designer play in the collaborative process of social innovation?’ (Margolin and Margolin 2002, p. 28).

The collective articulation of issues contributes to a set of design methods, primarily from participatory design and co-design, which used drama, staged events, objects and settings to elicit concepts for products and services. Our claim is not that the method itself is fundamentally novel. Rather, our argument is that we should recognise the collective articulation of issues as a design practice that provides base material for social innovation: it works to reveal the factors, relations and consequences of an issue, from which opportunities for innovation emerge. Moreover, it does this through an open and participatory process that enacts a character of pluralism, setting the tone for social innovation.

Although the collective articulation of issues can be considered as complete design events in and of themselves, ideally this would be part of a broader endeavour of social innovation. The opportunities and challenges gleaned would be taken up or extended. This would require further design skills and capacities and require recognition of the limits of design. To translate these opportunities and challenges into products and services requires entering another process of design. The collective articulation of issues thus provides one way of opening the space of possibilities for design, and more broadly, for discovering and inventing opportunities for social innovation.

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Note

1. A hashtag is an alphanumeric designator preceded by the ‘#’ symbol to enable finding the discussion via the Twitter search function.

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