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# Learning in the Permaculture Community of Practice in England: An Analysis of the Relationship between Core Practices and Boundary Processes

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**ABSTRACT Purpose:** This article utilizes the Communities of Practice (CoP) framework to examine learning processes among a group of permaculture practitioners in England, specifically examining the balance between core practices and boundary processes.

**Design/methodology/approach:** The empirical basis of the article derives from three participatory workshops and 14 interviews with permaculture practitioners distributed across England.

**Findings:** The research found that permaculture practitioners are informally bound together by shared values, expertise and passion for the joint enterprise of permaculture, thus corresponding to a CoP. It found that core practices (situated learning, mutual engagement, joint enterprise and shared repertoire) are strong but also that boundary processes are active, enabling learning and interaction to take place with other learning systems, although this tends to be restricted to those with similar perspectives. This, and the strong cohesion and identity of the CoP, leads to some insularity.

**Practical implications:** Scholars propose that innovative groups can strengthen the conventional Agricultural Knowledge System (AKS). This research, however, shows that the potential for the permaculture CoP to integrate with the conventional AKS is limited due to its insularity and self-reliance, in that the Permaculture Association fulfils the role of information provision and network facilitation. Most opportunities for integration lay in facilitating brokerage and dialogue between members at the periphery of the permaculture CoP and the AKS.

**Originality/value:** The research provides a critique on the use and value of the CoP framework in a new context and offers insights into how learning takes place in the permaculture community.

**KEY WORDS:** Permaculture, participatory methods, Communities of Practice, Networks of Practice, Agricultural Knowledge Systems, boundary processes.

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## Introduction

There have been a number of studies in recent years which have advanced understanding of learning and innovation within communities or networks in relation to sustainable agriculture. Conceptually these have shifted the focus away from the notion of knowledge transfer and emphasize the social nature of learning. These have highlighted particular aspects of social learning such as social capital (Hall and Pretty 2008); trust (Sligo and Massey 2007); facilitation of stakeholder learning (Roling and Wagemaker 2000); farmer to farmer learning (Schneider et al. 2009; Ingram 2010) and the importance of networking (Klerkx et al. 2010). Less attention, however, has been paid to understanding learning in bottom-up groups of food producers, farmers, consumers, non-governmental organizations (NGOs), experts and local administrations who are looking for alternative ways to produce and consume food around the principles of sustainable production (Aarts, Van Woerkum, and Vermunt 2007; Wiskerke et al. 2003). Such groups operate outside or on the fringes of conventional agricultural contexts and are typically self-organizing; they share common goals and interests and learn together to create new ideas and innovative practices (Brunori and Rossi 2000; Leeuwis and Van den Ban 2004; Knickel et al. 2009). These groups experiment with new methodologies and new approaches and as such can potentially play an important role in strengthening innovation in the Agricultural Knowledge System (AKS). Scholars suggest that the AKS, which is geared towards conventional farming contexts, needs to adapt to create new spaces and capacity for such groups by working across boundaries (Leeuwis and Van den Ban 2004). However, historically there has been a tension between these network approaches and a linear approach to innovation as found in conventional AKS settings, as networks represent a shift away from the dominance of AKS actors as sources of knowledge (EU SCAR 2012). Research into the processes of learning within such groups can provide insights into potential transformations within the AKS to support sustainable food production.

The production of knowledge in such groups occurs through sharing information in networks, either face to face or virtually, which can take the shape of ‘Communities of Practice’ (CoP) (Brunori et al. 2013). CoP is a conceptual framework which has evolved as a way of thinking about processes of social learning and knowledge generation in groups that are informally bound together by shared values, expertise, interest and practice (see Wenger and Snyder 2000). The notion of CoP was first proposed by Lave and Wenger (1991) and later developed by Wenger (1998) and Wenger, McDermott, and Snyder (2002), with contributions from other scholars (e.g. Brown and Duguid 1991, 2001a, 2001b) in the context of debates about knowledge, learning and innovation in organizations. It has been widely used and adapted to describe learning as a social activity in a number of contexts, including: stakeholder management and decision-making (Pahl-Wostl et al. 2007), participatory planning (Madsen and Noe 2012), extension for organic farming (Morgan 2011), negotiated learning in a dairy project (O’Kane, Paine, and King 2008) and farmer networks (Oreszczyn, Lane, Carr 2010). It is particularly valued as a practical approach to thinking about real-life situations which ‘operationalises social learning relating it directly to social structures and to the practice of the participants in the process’ (Morgan 2011, 100). Learning is at the core of the concept of CoP and they are viewed as social learning systems or building blocks of social learning systems (Wenger, McDermott, and Snyder 2002). CoP therefore provides a relevant framework for understanding learning processes within innovative groups. In particular the notions of

core practices and boundary processes elaborated in CoP, which can describe its capacity to connect with other learning systems, are relevant to understanding tensions between networks and the conventional AKS (Wenger 1998). Further insights can be drawn from the knowledge management literature, in which the notion of CoP has developed; this recognizes the role of emerging informal knowledge-based groups in the creation of an innovative knowledge system and highlights the possibilities of fostering their development but in the context of tensions between the CoP and the 'parent' organizations or structures (Wenger, McDermott, and Snyder 2002).

This article utilizes the CoP framework to examine learning processes among a group of permaculture practitioners in England, specifically examining the balance between core practices and boundary processes. In doing this, the article aims to explore the potential for such groups to link to, and potentially strengthen, the AKS, thereby contributing overall to understandings of learning in sustainable agriculture. The empirical basis of the article derives from participatory workshops and interviews with permaculture practitioners distributed across England.

### Conceptualizing COP

#### *COP and Core Practices*

COP are defined as 'groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis' (Wenger, McDermott, and Snyder 2002, 4). A defining feature of CoP is that they seem to emerge spontaneously from informal networking among individuals who have similar work-related activities and interests (Swan, Scarbrough, and Robertson 2002). They are described as a self-organized group of individuals concerned with a specific practice, who are learning how to improve this practice through regular interaction (Brown and Duguid 1991).

The CoP conceptual framework has highlighted the extent to which knowledge and learning are situated in practice. Lave and Wenger's (1991) theory of situated learning proposed that learning involves a process of engagement in a CoP based on the notion that learning is social and comes largely from the experience of participating in daily life. As Wenger (1998, 45) explains 'collectively we participate in activities and engage in them, and over time, this collective learning results in practices that reflect both the pursuit of our enterprises and the attendant social relations. These practices are thus the property of a kind of community created over time by the sustained pursuit of a shared enterprise. As such these kinds of communities are called communities of practice'.

Wenger (1998, 2000) traced the link between learning as an act of social participation (situated practice) to three elements of community: mutual engagement, joint enterprise and shared repertoire. CoP members build their community through mutual engagement. They come together because they are engaged in actions, the meaning of which they negotiate with one another. Members work together, explicitly or implicitly, to achieve a negotiated common goal or joint enterprise, which may or may not officially be defined. CoP members also produce a shared repertoire, a common history and culture is generated over time by shared practices, language, stories, tools, concepts and repeated interactions (Wenger 1998).

The CoP framework grew out of group-based learning in the workplace but today it is loosely used to describe a number of organizational and spatial settings. Criticisms have been voiced about the extensive use of the term CoP and the 'dilution' of the concept (Lindkvist 2005; Roberts 2006; Engeström 2007; Amin and Roberts 2008). In recognition that communities have increasingly problematic and permeable boundaries, often do not rely on face-to-face meetings and can comprise multiple communities, scholars have proposed modified concepts such as 'Distributed Communities of Practice' and 'Constellations of Practices' (Wenger, McDermott, and Snyder 2002). The application of CoP within relatively unstructured and dispersed communities such as farming communities has emphasized the fluid nature of CoP (Morgan 2011), and led researchers to describe them as 'Networks of Practice' (NoP), which share similar features to CoP but are characterized by looser ties, a weak organizational framework and greater external influence (see Brown and Duguid 2001a, 2001b, 2002; Oreszczyn, Lane, Carr 2010). Thus understandings of what constitutes CoP are flexible; however, the core practices described above remain central to the concept.

### *COP and Boundaries*

The sense of identity people gain from belonging to a CoP is important as this is a key factor in a person's decision about who to associate and identify with. However, Wenger (2000) argues that this feeling of belonging that comes with mutual engagement, joint enterprise and shared repertoires can make CoP inward looking, that CoP can become hostage to their history, insular, defensive, closed in, and oriented to their own focus. Where this happens, he argues, the community loses its dynamism and the practice is in danger of becoming stale. Over time, Wenger (1998) asserts, the shared history of learning which characterizes communities creates informal boundaries between those who have participated in that community and those who have not. As he notes, 'shared practice by its very nature creates boundaries' (Wenger 1998, 232). These boundaries are described as fluid or unspoken but are not insignificant as they can create divisions and can be a source of separation, fragmentation, disconnection and misunderstanding. Scholars suggest that, where boundaries exist, this can constrain knowledge flows between communities (Wenger 1998; Tagliaventi and Mattarelli 2006). They also argue that, although there is evidence of incremental innovation within CoP, their internal cohesion might limit the flow of knowledge across communities and therefore constrain more radical innovation (Brown and Duguid 2001a; Swan, Scarbrough, and Robertson 2002).

However, when the boundaries of different CoP meet it is considered that more learning opportunities arise compared to those inside the community, as boundary interaction usually involves being exposed to new opportunities for learning and fresh perspectives (Wenger 2000). To avoid being inward looking and self-referential, and engaged only in reproduction, it is suggested that CoP internal social coherence has to be balanced with openness to new knowledge and practice, both by interactions with other CoP and through processes of knowledge generation and renewal (Brown and Duguid 2001a; Swan, Scarbrough, and Robertson 2002; Probst and Borzillo 2008). According to Wenger (1998) the learning and innovation potential of a social learning system lies in its configuration of strong core practices (where mutual engagement, joint enterprise and shared repertoires are evident), and active boundary processes (where people, artifacts

and objects enable boundaries to be bridged) (Wenger 2000). This notion is relevant to understanding how innovative groups interact with the AKS as it describes the CoP's ability to open up to new knowledge. The article goes on to explore this configuration of core practices and boundary processes in the context of permaculture in England.

### Permaculture in England

Permaculture has been defined broadly as a design system for creating sustainable human environments. It is an approach to the design of community and agricultural systems according to the principles that mimic ecological systems (Mollison and Holmgren 1978; Mollison 1988; Holmgren 2002). Permaculture has three main components: three underpinning ethics, a set of design principles and a set of design tools. A central theme in permaculture is the design of ecological landscapes that produce food. As the emphasis is on design principles, it does not prescribe a specific method of food production, although it is often referred to as agro-ecological farming and is commonly associated with perennial plants, agroforestry, organic systems, with forest gardening and polyculture being popular systems. As permaculture is a design system for sustainability, and for the production of fibre and energy as well as food, it is applied in a number of contexts, including food, forestry, soil and water management, energy, housing and planning (e.g. Pickerill 2012). The permaculture approach creates a common ground, it inspires members to participate and guides their learning and as such corresponds to what Wenger (2000) terms the CoP domain.

The community dimension of permaculture, which is the social fabric of learning which fosters interactions and relationships, comprises members of the Permaculture Association (PA) (over 1200 individual, 67 group, and 18 business, as well as a wider network of practitioners who are not PA members (Permaculture Association 2011) in England. Funding comes largely from membership fees, with some charity contributions. The permaculture community has developed a set of frameworks, ideas, tools, information that the community can share. Chief among these is the PA, which promotes the understanding of the theory and practice of permaculture in England by educating the public; providing individuals and groups with access to advice, support, information and training and researching permaculture. This formal body legitimizes the design principles, provides accredited training courses (the Permaculture Design Course (PDC) and the Diploma in Applied Permaculture Design (DAPD)), provides a website and newsletters and runs events for members. It also runs the 'Learning And Network Demonstration' (LAND) project funded by the Lottery Local Food fund. This is a network of 54 demonstration sites (and 28 learner sites) for permaculture practitioners and the general public, which includes designed home gardens, community gardens, public spaces, allotments, smallholdings and farms. This 'routinization' represents the practice dimension described by Wenger (2000). The permaculture community in England can be described as an innovative group of people operating on the margins of conventional food production. With a constituency comprising non-conventional land managers; with little recognition from the conventional agricultural community and no perceived relevance to agricultural policy, the community receives no government funding or support and has very few links with, or representation within, the conventional AKS.

## Methodology

This article aims to examine the nature of the learning in the permaculture community in England. It uses the CoP conceptual framework to examine the configuration of core practices and boundary processes. Specifically it asks: to what extent does internal social coherence create boundaries between the permaculture community and those outside? To what extent does internal renewal and openness to new knowledge enable boundaries to be bridged? How does the relationship between core practices and boundary processes in the permaculture community affect its potential to connect to the AKS?

The research was carried out as part of the three-year EU-funded project SOLINSA (Support of Learning and Innovation in Sustainable Agriculture). This project is underpinned by transdisciplinary approaches which are considered to be most appropriate to understanding processes within learning and innovation networks (Home and Moschitz 2013). As such the research team and the PA actors met regularly to encourage mutual learning and joint question setting, and to plan research activities. As part of this, three participatory workshops, co-convened with the PA, were held at six-month intervals. Participants (15–20 at each workshop) were invited through the LAND project. These primarily included permaculture practitioners with land holdings, although tutors and PA representatives also attended. To supplement the workshops, face-to-face and telephone semi-structured interviews were carried out with 14 individuals, including non-LAND practitioners with PA/LAND staff and advisory board members as well as LAND individuals who had not attended the workshops. As a result, a range of individuals, with respect to age, gender, background, training, experience, location and type of site, were included in the research.

These represented the diverse range of actors who engage with permaculture. The workshops and the interviews focused on understanding methods and preferences for learning, sources of information and inspiration, and interpretations and understandings of permaculture practice. Workshop methods were participatory and included future planning using joint visioning; historical analysis using times lines; mapping of influencers and networks to understand sources of information and inspiration; and individual story-telling to ascertain personal experiences and reflections. Workshops and interviews were recorded and analysis of transcripts was undertaken manually to identify common themes with respect to the research questions outlined above.

## Core Practices

Wenger (2000) linked situated learning and the main three dimensions of CoP, mutual engagement, joint enterprise and shared repertoire. Together these can be thought of as comprising the core practices within the permaculture CoP.

### *Situated Learning*

Respondents in this research indicate that their learning is intimately connected to practicing permaculture and participating in a community. As members of a permaculture community they benefit from the diversity of the knowledge and motivation of other members, they also draw their enthusiasm and inspiration from fellow practitioners. Sharing information is important and all respondents valued this aspect. One Workshop



(WS) participant who manages an urban site explained, for example, how he got new ideas and new techniques from other PA members by visiting their sites:

Finding out how it works for them and how it doesn't – that's the main thing for me...that is the most important thing, sharing skills that I wouldn't otherwise get to. Participant 1

Freely sharing information with others without any notion of personal gain, apart from reciprocity, was a key characteristic mentioned by WS participants, as another explains:

Permaculture is about connections and the sharing and I think the fact that we are not holding 'my bit of information' but we give it away to as many people as possible and permaculture for me is a really good place to do that. Participant 6

Workshop participants also pointed to the absence of hierarchy as an important aspect of PA governance, enabling shared learning to take place on an equal basis. The training courses (PDC and DAPD) and skill sharing events run by the PA and by LAND play a central role in bringing people together to learn. One non-LAND interviewee, who has been involved with permaculture since the late 1980s and manages a 7.2-acre holding in Wales, described the transformative effect of participating in the two-week intensive permaculture design course:

What does exist is permaculture people and if you get enough of them together in a majority it has a very different feel to how things work. If you think of permaculture design as a culture, everyone who does a design course goes through a similar sort of process. They will be taught by different [people] and there will be a different emphasis but it will have the same foundational backbone...It is a whole package, food, company, learning and it is quite inspiring and transformative to be working with a group of like-minded people and to be learning about something. Interviewee 2

Practitioners, whilst connected by the website and newsletters, are geographically dispersed and often only meet at events and training courses. They tend not to be that well connected locally and some express feelings of isolation, both in geographical and ideological terms. However, although practitioners do not personally interact on a daily basis, the relationship between them, as the quote above suggests, is more intimate than a simple aggregation of individuals involved in a common practice.

### *Mutual Engagement, Joint Enterprise, Shared Repertoire*

There is evidence of 'mutual engagement' that binds permaculture practitioners together into a social entity with shared values and norms. Practitioners initiate and sustain relations organized around permaculture design, with the role of the PA being central here in maintaining the community. Practitioners feel part of a community, a WS participant, for example, said: 'It feels great to be part of what I realise is a worldwide network of people', another agreed saying 'it is just knowing that there's people like yourselves'. This sentiment is particularly strong for those who, prior to making contact with other practitioners and joining PA, felt very isolated. One WS participant, who runs a rural LAND centre, describes the impact of joining the PA and linking up with other practitioners:

You tend to think you are the only one involved doing this (laughs) and then all of a sudden people come along and you think 'he thinks the same as I do! What's happened here?'... [meeting others] has been a tremendous boost. I've seen what they have been involved in and it gives me lots of ideas on what I can do, you know, so it [networking] is important. I've lost this isolation...you know, because when you live deep in the countryside you build a fence around yourself. When I was younger...it was self-sufficiency, you know, individuals going into the wild and creating our own culture but of course it was a nonsense really because we are all part of a community and we need to involve everybody. Participant 12

Respondents explained that their shared frames helped them to communicate. Another WS participant, for example, said 'I found the meeting point is the Permaculture principles and the ethics...I've always felt this is good because people are speaking a similar language'. Not only is there a shared language but also a common sentiment, as one respondent described the biennial Convergence gathering where the 300 people attending 'all practice and who kind of feel similar things'. Broadly there is a sense that all practitioners are working within the same overall vision and sharing the same basic philosophy, and applying the same fundamental design principles. Although WS participants mentioned that there were different lists of principles, they agreed that they are all underpinned by one key principle – 'work with nature not against it'.

Permaculture practitioners appear to work together explicitly and implicitly, to achieve a negotiated common goal or joint enterprise, which is not officially defined. They are bound together by their collectively developed and continually negotiated understanding of what permaculture is. Although there are agreed and codified principles, respondents could not provide a commonly agreed definition of, or prescription for, the permaculture approach. As one interviewee (9), an organic farmer said, 'We have been members of PA since 2003, but struggled to find a definition.' As a consequence there are a range of interpretations of the approach. The flexibility of permaculture is attractive to people as the principles can be applied anywhere, but equally it can be difficult to know if it is being done properly, as the following comments demonstrate:

When you are working with nature, it is not constraining because every site is completely different. It is not like designing a product, which has to stick to a rigid specification. It is so site-specific; so people specific. It is so fluid – this is both a strength and a weakness. With something that is so fluid, it's quite difficult sometimes to know if you're doing it right, but at the same time this means that you don't feel constrained by anything. Participant 7

Some respondents, rather than seeking a definition of permaculture, emphasize the design framework as a defining element of permaculture which guides them, and recognize that there are different individual approaches and resulting lifestyles. An interviewee, who is an experienced practitioner and a course trainer, remarked:

First of all I don't really talk about a Permaculture I talk about a Permaculture design. That's quite a big difference. It's the design of the systems. So to me it is a design discipline, but you can use it as an integrating principle in your actions, everything that you do... Permaculture designers have different approaches and different lifestyles, accordingly. So although we use the same basic ethics, principles and design tools, we have different lifestyles. Interviewee 2

As such, finding a definition for permaculture for some 'doesn't matter, there are many routes in', as one respondent (Interviewee 10) said, he continued 'If you look at Bill

Mollison's design manual there is a very clear paragraph that just expresses it but then you have more quirky ones, one trainer described it as "revolution disguised as organic gardening".

These design principles, tools and training courses contribute to a shared repertoire, a range of communal resources, writing, routines, rituals and ways of doing things that have become part of the community's practice over time. Certain people, notably the founders of the permaculture principles (Mollison and Holmgren 1978), and their publications (referred to by WS participants as 'bibles') have become mythologized and part of the accepted history and narrative of permaculture. They also have shared ways of doing things and stories and activities help to create a common language and discourse reflecting a certain perspective on the world, as one WS participant explained:

You go somewhere and you are all on the same page straight away. You don't have to explain what your methodology is. For example, when we're here together I know that you have the same sort of ethical mindset that I have. So I don't have to prove to you or explain my reasoning...This is really refreshing for me. Participant 6

This shared understanding is underpinned by tacit knowledge. One participant expressed this well 'We know in our heads what it is, but it's hard to put into words.' Another agreed, saying 'Permaculture is easy to understand but not easy to explain.' Quite a lot of the 'spirit' of permaculture cannot be put down on paper – as another added 'it kind of rubs off' from being, and working, with others. Much of permaculture is experiential and performative, understood, by 'breathing it in' as one participant explained.

The data presented here show that the practitioners are informally bound together by shared values, expertise and passion for the joint enterprise of permaculture, thus corresponding to understandings of CoP (Wenger and Snyder 2000). Permaculture community members do not personally interact on a daily basis nor do they share any former links which might provide a common basis for understanding, unlike, for example, organic farmers who, as Morgan (2011) found, are already embedded in social and farming networks and thus allowed the process of conversion to organic farming to further build shared understanding amongst them. Nevertheless, by virtue of membership of the permaculture CoP, an individual can access and contribute to its collective identity. CoP members are committed to a unique approach and philosophy and share a history, repertoire, discourse and resources; they are bound together by their collectively developed approach to, and language about, permaculture. This supports a current consensus in the literature that CoP do not require close spatial proximity, that relational proximity is not reducible to co-location (Amin and Roberts 2008); that practices can be shared widely among practitioners in communities without members coming into contact with one another (Duguid 2005, 113); and that non-semiotic aspects of social structures are equally important as semiotic aspects in CoP (Barston and Tusting 2005). The learning described here is linked to participation in the company of others, where the participation refers 'not just to local events of engagement in certain activities with certain people, but to a more encompassing process of being active participants in the practices of social communities and constructing identities in relation to these communities' (Wenger 1998, 4).

It would seem that the cohesion and identity of the CoP and the ideal of permaculture is strong. There is good evidence of all core elements of CoP (mutual engagement, joint

enterprise and shared repertoire) being entwined in the permaculture community. In particular, the repository of both explicit codified knowledge and the less tangible tacit knowledge, a feature described by other scholars for CoP and NoP (see Eastwood, Chapman, and Paine 2012; Brown and Duguid 2001a, 2001b) create a sense of belonging and an inherent stability which allows learning within and around the community to take place (Allen 2000, 28). Together with the strong commitment to joint enterprise this reinforces mutual engagement. Permaculture practitioners also work together explicitly to achieve a negotiated common goal. By applying the design principles and using common tools, practitioners hold each other accountable to a sense of joint enterprise. They also cohere around what Allen (2000) described as tacit, internalized shared understandings about the practice of permaculture which bond individuals together and help to create a common identity and language. O’Kane, Paine, and King (2008) describes a similar shared discourse or dialect within a dairy farming project CoP, as a common epistemological language, which is used to maintain the community’s identity. These results suggest that a set of practices has emerged to support learning in permaculture independently of the AKS. These are defined by distinctive learning processes, tacit understandings and language which arguably make external communication with AKS actors both difficult and unnecessary.

### Boundaries and Boundary Processes

The core practices described above might increase the tendency towards insularity in the permaculture CoP. With a constituency comprising individuals who have a deep ethical commitment to permaculture, share a common history, and put a great reliance on tacit understandings of the permaculture approach, there is a risk that the CoP becomes self-referential, engaged only in reproduction of permaculture practices and inaccessible to those on the outside due to a lack of understanding. This risk is enhanced by some in the community who stress the need to strictly adhere to the permaculture principles and designs. These were described by respondents as practising permaculture with a ‘big P’. One interviewee, an experienced practitioner, described himself as being one of these, who had mellowed over time:

At one point I was incredibly purist and I look back at myself and think ‘what an idiot’. I was so strict with what I ate and all that sort of stuff. It’s interesting. Because I’ve been involved for 23 years or whatever, my concerns say, around the definition, changed over time. This in a way is what everyone goes through. Interviewee 2

However, WS participants distinguished these purists from people practising permaculture with a ‘small p’, who applied a more relaxed and flexible interpretation to the approach. They identified a tension between these purists and non-purists of permaculture design. A respondent’s (Interviewee 4) view that the PA is ‘a mad collection of often quite difficult b\*\*rs’ reinforces the notion of contestation about how permaculture is interpreted and operationalized. Some CoP members believe that permaculture has become too dogmatic, and that it should open up and ‘let go of the P word’. They consider that there is a perceived exclusivity about the approach from those outside which creates a barrier to understanding, as this comment from a WS participant demonstrates:

I don't use the p word. If you're too much of a Permaculture community it's exclusive to people who don't understand who think there is a bunch of hippies doing their own thing... They need to involve the wider community. People look in from the outside and say that's not for me. Participant 7

Other respondents agreed that there is a need for Permaculture to lose its alternative image and appeal to a wider constituency. One interviewee, for example, commented that:

The Permaculture Association needs reshaping – it needs to revisit its identity. They feel like a home backyard project, doing things for love, using volunteers...I don't want Permaculture to disappear but the alternative is to have what we experienced 'oh that's not Permaculture' [referring to a comment made about their farm by the PA]. Interviewee 4

These tensions and dissenting voices show that some people are pushing at the boundaries of the CoP, exploring new interpretations and new ways of operationalizing permaculture to make it more accessible to those outside.

The permaculture CoP boundaries themselves can be described as porous. The understanding of what constitutes permaculture is so flexible that anyone feeling themselves competent or interested can practice it. People are not excluded from joining the PA, it is an open membership. This membership is dynamic, so although the number of members remains at around 1200, the composition is changing all the time. As one interviewee, a PA advisory board member, explained:

[Membership is] creeping up, the PA has a high turnover, people join when they do a course and then leave. When we started there were the true believers, now there is a trail of old hands who have incorporated it [Permaculture] into their lives, and a larger and varying active community giving us a wider community. Interviewee 10

A range of interpretations and a diverse and changing 'constituency' of the permaculture community, with dispersed members arguably should encourage, and bring in, fresh perspectives and experiences. Respondents also identified a number of individuals and organizations they look to for information and inspiration from outside the permaculture community, including: the Agroforestry Trust, the Soil Association, Centre for Alternative Technology, and local transition groups. A few managers of permaculture sites interact with their local community, as one participant (10) remarked 'We have contacts on many fronts, farmers, local government, architects, urban food growers, we're reaching out to a lot of people', although this is not typical. The PA themselves also fulfil a similar role at a different level, working with other national and international PAs, and similar organizations as well as like-minded academics. Notably none of these actors mentioned individuals or organizations within the formal AKS.

There are some concerns that the idea of permaculture and the coherence of the CoP are being diluted by an open and dispersed membership and varying and contested interpretations and understandings This is in line with perspectives about a general misinterpretation of permaculture. The founders of the permaculture movement lament the popularized spread of permaculture as an alternative lifestyle choice or system of organic gardening, arguing that this significantly understates its scope and objectives. As with organic farming, some feel that permaculture's goals and preferences are being appropriated and redefined, and thus diluted, by various actors (Darnhofer, Schermer, and

Schneeberger 2008; Morgan 2011). This might suggest that, rather than invigorating the CoP, a mixed constituency with differing perspectives might compromise the community by threatening its coherence. However, equally it can be argued that the enterprise that keeps a CoP together is the result of a collective process of negotiation. Not everybody understands or practices permaculture in the same way; it is communally negotiated. This ‘conflictual as well as harmonious’ aspect is a feature of social participation (Wenger 1998, 55–56). As such the ambiguity in interpretation can be regarded as an asset, a healthy aspect of the CoP which defines the learning and innovation potential of this social learning system.

There is evidence of active boundary processes, specifically of bridging, through personal interactions, brokerage by individuals who link CoP, and the activities of the PA and the LAND project (demonstration sites, newsletters, websites, conference presentations) which correspond to what Star and Griesemer (1989) call ‘boundary objects’, devices that connect different CoP. Arguably these boundary processes together with CoP membership renewal and expansion ensure that internal social coherence is balanced with openness to new knowledge and practice, something scholars regard as necessary if CoP are to succeed and not to become inward looking and self-referential (Brown and Duguid 2001a, 2001b; Probst and Borzillo 2008). However, the nature of the boundary interaction is important, Wenger (2000) asserts that learning at boundaries is maximized when experience and competence are in close tension, and that achieving a generative tension between them requires having open engagement with real differences as well as common ground. The evidence presented would suggest that individuals and the PA are limiting their boundary interactions to those CoP with similar perspectives and values on alternative food and energy production and lifestyles (as listed above). As such, they are not necessarily encountering real differences or new competencies but limiting interactions to those in the same social learning system. The implications of this with respect to connecting to the AKS are discussed below.

## Conclusion

The CoP provides a relevant framework for understanding learning processes in the group of people practicing the permaculture approach in England. The data presented here show that the practitioners are informally bound together by shared values, expertise and passion for the joint enterprise of permaculture, thus corresponding to understandings of CoP (Wenger and Snyder 2000). They share ideas, solutions and co-learn in respect to a common goal or ideal. Given the dispersed and sometimes disconnected nature of the practitioners, and their networking outside the permaculture community, there might be a case for describing the group as a distributed CoP (Wenger, McDermott, and Snyder 2002) or an NoP (Brown and Duguid 2001a, 2001b). However, the group of permaculture practitioners demonstrate many distinctive features of CoP. For example: they have a legitimate organization authority in the PA around which the community coheres; their learning is an act of social participation; and there is an emphasis on individual competence and practice. Moreover, although some are influenced by sources outside of the immediate permaculture community, most knowledge is generated and circulated within the community. It may, however, be more appropriate to describe permaculture as a CoP for some people and an NoP for others, rather than seek to label it as definitively a CoP or NoP. The former comprise inward-looking core members (the ‘true believers’, or

purists) and the latter comprise those operating at the periphery who are looking both inside the CoP/NoP and to other CoP/NoP for their information and who might contest what they consider to be dogmatic interpretations of permaculture.

These results suggest that links, actual and potential, between the core actors in the permaculture CoP and the AKS are limited. Strong internal ties within the permaculture CoP, together with views of some purists, suggest a tendency for the CoP to be inward looking and gives the perception of being inaccessible from the outside. Equally, the significance given to the knowledge generated and circulated within the community, particularly the tacit or 'unspoken' knowledge, means that communication with more formal learning systems is limited. Such exchange is something that the conventional AKS, with its reliance on exchanging codified knowledge, is not equipped to do (Curry and Kirwan [forthcoming](#)). Also, although the boundaries of the CoP are porous and there is a differentiated and dynamic community, engagement is principally with others in the same social learning system (e.g. those in the transition movement or organic food production networks). As such, the CoP horizons are limited and only extend to the fringes of the conventional AKS.

Furthermore, in the absence of support from formal AKS institutions and actors, the PA has emerged to meet the needs of permaculture practitioners by providing formalized knowledge (information, training, guidance and pathways of learning) and facilitating informal learning. This sits within a wider 'alternative' learning system, and appears to meet the needs of individuals, it also offers space for debate and differing interpretations. As such, the AKS might be seen as an irrelevance to the permaculture CoP. Equally it could be argued that the CoP would not have developed as it did, with a lot of mutual inspiration and learning, if ties with the mainstream AKS had existed; that a critical aspect that fostered the CoP development has been the lack of support from the AKS. This finding has implications with respect to debates concerning the need for AKS actors to accommodate emerging groups to strengthen the innovation systems (Smits and Kuhlmann [2004](#); Van Buuren and Eshuis [2010](#)). Activities aimed at fostering such groups need to be sensitive to, and not compromise, their self-reliance and self-organization.

If the AKS is to engage with the permaculture community it needs to facilitate communication with those members on the periphery who are outward looking, developing new interpretations of the practice and already engaging in boundary processes. This can be done by experimenting with new methods and practices related to facilitation and brokerage which have proved effective in other countries (Leeuwis and Van den Ban [2004](#)).

The role of actors who can span and connect both knowledge systems is key. Insights from the knowledge management literature suggest that the AKS, in cultivating CoP, requires a set of design principles which emphasize a flexible approach, opening up a dialogue between inside and outside perspectives and enabling different levels of participation (Wenger, McDermott, and Snyder [2002](#)). Further research is needed to ascertain the views of those within the AKS with respect to these proposals.

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