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Networked Identities – Understanding Different Types of Social Organisation and Movements Between Strong and Weak Ties In Networked Environments

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ABSTRACT

In this article we take up a critique of the concept of Communities of Practice voiced by several authors, who suggest that network may provide a better metaphor to understand social forms of organisation and learning. This critique we situate within a broader theoretical movement in socio-cultural learning theories. From this we identify some theoretical and analytical challenges to the network metaphor, which we explore and elaborate through an analysis of a Danish social networking site.

Keywords

Networked identities, communities of practice, networks, social forms of organisation, weak and strong ties

INTRODUCTION

The term 'networked learning' suggests an alternative perspective on learning, which we inspired by Jones and Esnault (2004), shall take up by comparing it to Communities of Practice (CoP) (Wenger 1998). They argue that the metaphor of networks may be a better way to understand different forms of social organisation and suggest that CoPs are one specific type of social organisation; namely a network composed of strong ties. From this they argue that the metaphor of CoP is in danger of omitting an understanding of networks as also composed of weak ties which can be equally important in relation to learning.

We situate the critique of CoP within what we argue to be a wider movement or shift within different, but related areas of research on technology and learning. Our claim is that recent thinking within learning and technology has increasingly been focusing on movements across different contexts or boundaries and that there is a rising interest in how knowledge and learning 'travel' or 'transfer' between these, whether the focus is on persons, digital resources or both. From this we point out some potential analytical and theoretical challenges to the network metaphor which we elaborate and discuss through our analyses.

Our analyses stems from investigations of a 'community' or 'social networking' site called Arto.dk especially used by young people between the ages of 13-17. We have chosen this as our case because it consciously builds on a network metaphor which we have not found similar in the networked learning environment we are familiar with. Initially in the analyses we use the notions of strong and weak ties to discuss different types of social organisation. It is not our aim to argue which type of social organisation is most important or predominant, rather we set out to describe how people move through and navigate within these different types of social organisation and how they weave them into what we shall term 'networked identities'.

The importance of focusing on weak ties as a social form of organisation

Within educational research there has been an increasing interest in the concept of CoP both as an analytical tool and as a way to pedagogically design online learning environments (Dirckinck-Holmfeld, Sorensen et al. 2004). Therefore, there has been a strong focus on understanding communities as a form of social organisation and how to implement the notions of CoP in pedagogical practices (Dirckinck-Holmfeld 2006 Forthcoming). At the same time several authors have emphasised the need to focus on other types of social relations than communities and have suggested that CoPs can be viewed as *one* specific type of social organisation (Jones and Esnault 2004); Jones (2004) and Jones, Ferreday and Hodgson (2006 Forthcoming)). From the metaphor of networks they question whether tightly knitted and coherent communities with strong ties are the most dominant type of social organisation in comparison with more loosely defined networks with weak ties. Networks are viewed as constantly changing relations between nodes in networks where nodes can be understood as both human actors and resources. They stress the importance of weak links in networks and generally argue that networks are a better metaphor to understand organisations of social practices and might contribute to a better understanding of

learning. The metaphor of networks in contrast to e.g. CoP or theories within CSCL does not privilege a particular view of relationships between the nodes in the network such as community or collaboration. These recent challenges to understandings of social organisation of practices are very interesting and they certainly challenge units of analysis such as 'CoP'.

Similar changes and movements can be found in Cultural Historical Activity Theory, where the unit of analysis over the years has moved from focus on single activity systems towards focusing on learning across multiple interacting activity systems. Engeström (1999 & 2004) introduces the concept of knotworking which describes unstable, actively on-the-spot constructed relations and constantly changing configurations of people and artefacts across interacting activity systems. Equally, within the theoretical landscape of apprenticeship learning and critical psychology represented e.g. by (Dreier 2002; Lave 2002; Nielsen and Kvale 2002) the unit of analysis seems to be moving from employing terms such as legitimate peripheral participation in single, coherent communities towards understanding individuals' movements across and between different social contexts. In all the examples there is an increased focus on terms such as relations, movement, interaction, boundary, instability, trajectories and network/knotwork, rather than the more stable entities such as activity systems and CoPs. Not that the latter concepts entirely disappear, but they seem to be increasingly 'backgrounded' in favour of less stable configurations and social forms of organisation. It seems to us that socio-cultural learning theories are increasingly becoming interested in learning that happens not only in discrete contexts, such as a school class, a work place or an organisational unit, but rather in the learning that happens across and between these constellations. This is also reflected in a recent research proposal by Wenger (2005), where he outlines some ideas for future research. In this proposal the notion of identity becomes a core-issue. The analytical focus has moved onto people's movement between CoP and larger-scale systems and how identity is developed through participation, immersion or withdrawal from CoP's and by a person's multi-membership and boundary participation in different communities over time (Wenger 2005). In our interpretation this resembles very much the notion of networked individualism and it also seems to take a more networked view, as the focus is eschewed from the particular community towards individual trajectories or relations.

We adopt the view that the notion of CoP and learning theory in general can gain a lot by being viewed through the metaphorical lens of networks; however, we also want to voice some concerns with the notion of networks. Firstly, much in line with Jones (2004), we find it interesting that networks at different levels of scale seem to be evolving from and sharing similar underlying structures or properties that can be described through mathematical laws (e.g. that a large number of nodes have relatively few links, whereas a few have a lot of links and appear to be central nodes in the networks). However, this does prompt some questions which are also taken up by Jones (2004) and Enriquez (2006 Forthcoming). Our reservation would be that, even though the underlying structural properties or laws of networks are the same, this does not in itself explain why some nodes are more influential than others. Our claim would be that the actions, practices and meaning-making processes might be very different, though the underlying structure is the same. We doubt that the actions and practices that will make one an influential node in a dating-network would work equally well in a European research network. Engaging in analysis of specific networks and understanding the relational processes going on between the nodes requires, in our opinion, an understanding of the meaning making processes, as to understand e.g. why weak links suddenly become strong or why and how people move from marginal positions to be central.

Secondly, an important analytical and methodological question arises: What actually constitutes the network or the unit of analysis, and what does it represent? If we theoretically and empirically are moving towards an understanding of learning as happening across boundaries and by engagements in different contexts, then what actually constitutes the network or the unit of analysis? Can the network be limited to e.g. a course or the interactions in the forums? Does e.g. software analysis of the interaction in an online course capture the 'full' network, as Enriquez (2006 Forthcoming) asks by referring to face-to-face interactions? If we broaden the analytical scope for learning and incorporate concepts such as boundaries, movement across context and the complex social relations people form across these, then it becomes even more difficult to establish what actually constitute the networks in question. Though, as Jones argues, networks are atomic, nested and scalable, it does become an interesting question of what networks we do (or even can) incorporate in our analyses.

Thirdly, when talking about weak and strong ties, a question related to the parameters for whether a relation is strong or weak arises. How do we establish whether a relation is strong or weak? What parameters can we use? Number of messages could signal a large flow of information between nodes, but would an equal low flow mean that the relation is weak? For instance one might not be in contact with one's parents everyday, but would probably conceive of the relation as quite strong. What would be the parameter in analysing and understanding such relations? Would it be necessary to incorporate analytically other measures apart from the structural

strength of a relation such as the 'strength' of meaning people grant the relation? We certainly don't intend to answer all the questions posed here. What we will do is that we shall take up these questions in relation to the analyses and in the final discussion.

Methodological background

The analysis of the empirical material methodologically draws on an extensive virtual ethnographical investigation (Hine 2000) carried out by one the authors in relation to her master thesis (Larsen 2005). The virtual ethnography consisted of a seven-month participant observation at the most popular website in Denmark for young people. Apart from the participation the author conducted group interviews and created a small 'questionnaire'. The small qualitative questionnaire was made on Arto using the 'friend book' as a tool. This is a feature where users can ask question to their Arto-friends, and the author used it to ask Arto-users 25 questions about their use of Arto – 60 of the author's Arto-friends replied. During the investigation the author created a profile on the webpage (www.arto.dk) stating the intentions of the research project, but apart from that she participated as a regular user. The investigation focused on how young people develop friendships and identity on the particular website. In this article we re-visit some of the empirical material and focus on how the young people continuously construct their participation as an intersection between networked performances based on loose ties to engaging in closer connected networks or communities of practice, within the website as a whole.

Case description

In the recent years the website www.arto.dk has become the most visited website in Denmark among young people between 13 and 17 years old. It has been estimated that approximately 80 percent of all young people in Denmark between the age of 13 and 17 have a profile on the site (in all there are more than 540.000 profiles though it is difficult to accurately estimate the number of users). Arto was put in operation in 1998 by a 19-year old high school student. By then the website functioned only as a repository for jokes and it did not have many visitors. However, one day a guestbook was created as an extra service for the visitors to be able to write to each other. This quickly turned out to be more popular than the jokes themselves. Arto became a hugely popular website for communicating and meeting old and new friends and what used to be weak relation between the users all of the sudden became stronger and more explicit as the users were now able to communicate. Today the aim of the website is to meet and talk to friends and form new friendships. Online the youngsters create their own profiles with pictures and descriptions of themselves, they chat, debate, write diaries, comment on each other's pictures and so on. The most frequently used feature on Arto is the guestbook which is used to communicate short text messages. The following is a screen shot of a profile on Arto (belonging to one of the authors during her research) seen on the main page.

On this page a photo of the owner is shown along with her personal information; name (navn), age (alder), state (landsdel), civil status (civilstatus), occupation (beskæftigelse) and so on. To the right there is a list of the user's friends - the so-called Arto-friends - which is for everyone to see. The friend list reflects the network metaphor the website is based upon and one can apply for a friendship with a user, who then either accepts or rejects the application. Below there is a space in which the user can narrate her own text which is similar to having a personal homepage. Here the users mostly put descriptions and pictures of themselves and their best friends. The guestbook (gæstebog), which we will refer to as GB, is located in the top menu bar. The most frequent messages consist of small messages like "Hi, what are you doing?" or "Popped by" etc. Next to the GB the gallery (galleri) is located. Here the users can upload pictures, comment on them and receive comments from the other users. The comments are highly in demand and the users often urge each other to comment their pictures. Mostly, the comments consist of messages saying how beautiful, hot or nice the person looks.

The main page of the profile, the GB and the gallery are among the most used features on Arto. Thus, the website can be split into two primary activities; personal and branding related activities and social and contact enabling activities, but Arto also contains games, jokes, a movie site, postcards and the users also have access to chats, forums and creating clubs.

Analysis

Through the analysis we shall take up the value of taking a networked, relational perspective, but also the analyses will highlight issues reflecting the questions we raised earlier. In the analysis we will touch upon how creative use of technologies plays a crucial role in the process of constructing different types of relations and social forms of organisation and how different 'mediational means' are used to create what we call 'networked identities'.

To avoid confusion of terms we prefer to speak of 'mediational means', which we adopt from Scollon and Scollon (2004), rather than digital resources. We do this because 'digital resources' often seem to connote 'content' in a course, such as electronic texts or simulations (e.g. Jones, Zenios, Griffits, 2004). Mediational means better capture the variety of what we mean, as by 'mediational means' we are thinking of language use, styles, discourses and any other material or semiotic mean by which people construct and make sense of interaction in networked environments. It is also somewhat different from the term 'boundary object' (Dirckinck-Holmfeld 2006 Forthcoming) which suggests a more tangible and shared representation between diverse groups of people like e.g. a map or a model. A 'mediational mean' is a more atomic, scalable term because it *can* be a boundary object or a piece of simulation software, but equally a certain way of arranging and colouring text or a specific feature on a webpage.

Moving from networking to self-initiated communities

In this section we shall go into an interesting change that happened on Arto during the investigation which was a user-initiated change of the types of relations possible on the website. Initially, the relations to others were formed primarily around 'knowing each other' or 'getting to know each other', but the users started to change this into networks (communities) based on joint enterprises or shared interests. As can be seen from the screenshot of the profile and the case description the initial metaphor of the website was formed around the construction of a personal, individual profile. Several mediational means point to and afford exactly this use e.g. one is prompted to put in age, name, physical location, civil status, occupation and there is even a personal diary.

Despite the different mediational means and affordances made available to the users many of them began to make new profiles to create a specific community or a specific club. Instead of giving the profile a user name they gave it a club name and the profile's picture gallery was then used as a member list showing a picture of each member. Eventually, this practice among the users resulted in the Arto's staff creating a specific functionality for clubs or communities on the website. Now there are more than 17.000 clubs. The aims of the clubs vary greatly; some are extensions of already established groups of friends with strong ties, others are interest groups such as groups of football supporters, fans of 'The Simpsons' or a computer game club, and these might feature more weakly tied connections. This is, however, very difficult to speak of in general as people engage in several different clubs and may feel differently obligated or related to these. The important thing is not whether the specific clubs are based on strong or weak ties, but that there was an urge among the users to change the content of or the types of relations among each other. Thus, the users' initiated creation of the clubs points to that the types of relations, whether they are strong or weak, can be based on different meanings such as acquaintance, friendships, shared interest, suggesting that a relation is not merely a relation, but a relation of a certain nature.

Moving and navigating between strong and weak ties

As described above the people who frequently use Arto continuously shift between different ways of relating to others. The website in itself is a very good example of how people in practice move through different types of relations in a profoundly networked structure. This is due to the interweaving between strong and weak ties that the technology affords, though, as we shall see, it is not unproblematic to identify what constitute strong or weak ties.

It seems evident that some people use Arto to construct and maintain networks with strong relationships, whereas others use it just for fun, time killing or to establish newer or weaker relations. This became clear in the empirical investigation when the users answered the question "What does Arto mean to you?". Here are some of their answers which represent both different views while being representative for all the answers given (Adopted from Larsen 2005 – our translation):

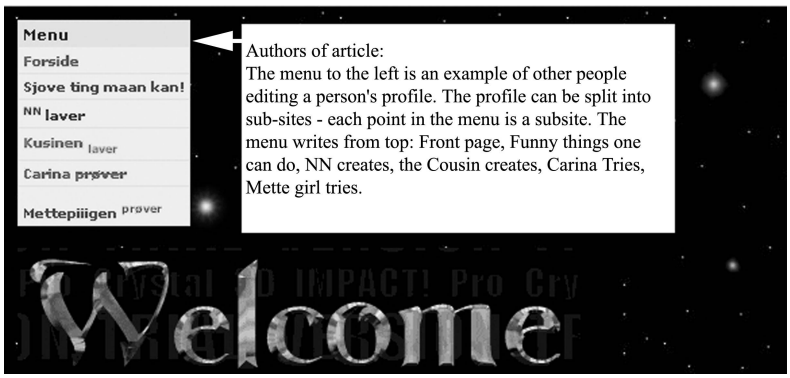
1. "Everything" (Boy, 15 years)
2. "Hmm … Well, It's Something I Bother Spending My Time On" (Girl, 13)
3. "that I can arrange to meet with my friends and stuff like that!" (Boy, 13)
4. "that I can just sit and talk to my friends" (Girl, 17)
5. "that I have more contact with my friends… also when we're together… because then we might talk about something that happened in here…" (Girl, 15)
6. "It is almost my life…I have a lot of friends you know…" (Girl, 14)
7. " That I won't lose some of my IRL-friends!" (Boy, 17)
8. "it a fun way to get in contact with other people" (Girl, 15)
9. "… it is hard to explain, I have actually written with people in here who are some of my really close friends today…" (Girl, 15)
10. "Not so much… But it's a great way to meet new friends" (Boy, 15)
11. "I don't know… Nothing special. It's almost pastime" (Girl, 15)
12. "Arto is my way to all knowledge and humour I can capture- I don't think I could live without Arto, but I could live without my mobile phone" (Boy, 14)

As the citations show Arto enable people to form and maintain simultaneously strong or weak ties and users take up these possibilities very differently. Some use it to get in touch with new people that might in time turn into close friends as one of the users suggests (9). Others primarily use it to maintain the relations they already have In Real Life (IRL) (3, 4, 5, 7); others again seem to favour the exploration of new relations (8, 10). It is quite clear that they attribute very different meanings and 'weight' to the relations they form – from 'essential to life' to just having a bit of fun. Friendship and relations matter a great deal to the young people as the above statements also show. It is through their relations that they construct a great deal of their identity (Larsen 2005). The most prominent and visible mediational mean to indicate relations between each other is the 'friend list'. This could suggest strong ties between the nodes, but at the same time there are very different interpretations among users as to what constitute 'friends'. From the questionnaire, the interviews and 'rules' written in the profile texts by some of the users it became clear that there are very different practices and opinions about the use of the friend list. Some users hold that they will not accept friendship applications from users with whom they have never communicated or met IRL. They do not want to appear on friend lists with people unless they know them very well. Those users distance themselves from the so-called 'friend-hunters' who send out friendship applications to almost everyone. Some have more than 100 friends on Arto that are scattered all over the country and whom they might have met through the forums or the chat. They seem to value and nurture having a very diverse set of relations to many different people. These examples highlight the problem of determining both the strength of the relations, but also how much these relations actually reflect whether a person is central or peripheral in the network. Though, it may be possible to trace networks on Arto and establish persons with many connections or those who frequently write to others from 'digitally harvesting' the friend lists, it is difficult to say what this means in the eyes of the participants, as there are multiple and conflicting interpretations of this. It could reflect both that the person is popular and respected, but equally that they just value having a lot of friends on their list which in other users' eyes could denote a 'loser'.

In the former section we touched upon the notion of multiple sites of engagement. From the statements and when looking at the profiles on the site it is clear is that they reflect a multidimensionality of the activities people engage in and a multi-membership in many different networks both online and offline. The memberships actually often span or wipe out distinctions such as online and offline spaces, as can be seen from the statements (5, 7). In relation to this especially the remarks that one of the respondents uses the networked environment to maintain the relations to his IRL friends (7) and equally that a girl comments on how the networked environment enters as a discourse in IRL discussions (5) are interesting. It points to that network relations is a very composite and layered phenomenon that spans time and place. As Jones suggest network relations are dynamic and composed of actions and histories that may suddenly be invoked in other contexts. The compositeness of relations is also visible in the profiles on the site. They often feature very diverse references to classmates, a boyfriend/girlfriend, best friends, broader interest such as sport or computers, preferences/dislikes and also which clubs on Arto one is a member of. Thus, they are very complex representations of a person's identity and how they are related to different practices and networks which underline the problem of identifying what actually constitute relevant networks. However, strong ties are actually made explicit in very interesting manners which, similar to the self-initiated clubs, have come about through creative use of the mediational means in the profile descriptions.

'Open-source' networked identities

In the case of Arto it is clear that the website and the mediational means are used to construct identity (Larsen 2005). As we have said the profiles originally afford a personal, individual space. Despite these affordances people use the profiles to portray each other and to signal strong ties. Is has become more than common that owners of a profile hand out their username and password to best friends or a boy-/girlfriend so that they can write and design a description of the profile owner (see picture below). Actually, this has become so common that in December 2005 Arto created a feature that allow users to assign others the rights to write in their profile description, without having to hand out their username and passwords (because this practice has caused some misuse). This way of using the profiles are quite interesting, partly because it reflects a new way to make strong ties to others visible. As we argued, the friend lists have to some degree lost their functions as signifying these types of relations and therefore it seems that people have re-constructed the profile descriptions to signal these strong ties.



The example, however, also tells a great deal of how the users interpret the notion of identity which is indeed quite complex and encompass some interesting tensions. One very prominent shared understanding among the majority of the users is that it is very important to be 'real'. This means that creating a 'fake' profile is considered almost a crime and 'faker' profiles are sanctioned by several messages in the GB crying out 'faker', 'beat it faker' or language use much worse. 'To thine own self be true' could be the shared motto among the users; so in understanding identity it is important to know that people are not acting out a lot of schizophrenic roles or separate identities. However, the notion and actual performance of identity is inherently relational. As described users actively use other's descriptions of them on their own profile pages, where they let others describe who they are. The way in which they portray each other bears a close similarity to testimonials or ´reviews' building on a commonly shared understanding that they must speak highly positive of the person. In this way people are actually in control of other's construction of them to the degree that they can be almost certain that it will be a positive one. Equally, users often put in statements from their friends on their personal page of the profile. These are most often positive and praising comments written in the user's guestbook. Having other people commenting on one's personality and self-description (or even narrating them) we interpret as a reification of relational identities or even an 'open source' identity. The users are very much 'real' and themselves, but at the same time they all expose very reflexive and relational identities – they basically exist and become real through their networks. Their identities are continuously constructed through the networks by drawing on both strong and weak ties in their multiple networks; here weak ties are especially enacted through a shared practice of leaving positive GB messages or comments on people's pictures. Clearly, recognition and constant acknowledgements are quite important to the users and this is also why these networks are so important; it is important for them to be constantly assured that they look good and others like them, wherefore the weak and strong relations are invoked or invited to do this continuously. The strong relations further functions as a 'trust network' between the users. Often they find new friends through each other after having read a positive review of a user on an existing friend's profile. In this sense the existing strong ties become bridges to new relations.

There is much more to be said about the identity construction and relations on this particular website, but for this paper we will conclude the analyses by summing up what we mean by networked identities which is very much inspired by Wenger's (2005) notion of identity. Therefore, we have also stressed the notion of meaning-making processes in the networks as part of the analyses. These we find to be essential in relation to understanding the different participants' interpretations of what counts as strong or weak relations, or what kind of relations are even being experienced as meaningful. By using the term 'networked' we wish to stress the multidimensional, relational aspects of identity and the complexity of the networks that people are related to in practice. These are continuously constructed by invoking both weak and strong ties across networks. The networks span not only online/offline spaces, but are equally dynamic and historical in the sense that previous actions in a network can be incorporated in other overlapping networks. By using the term 'networked identity' we hope to capture the

richness and complexity of the relations we continuously engage in across contexts such as work, school, spare time, online, offline etc.

Discussion

In this final section we take up the discussion, related to the challenges to the network metaphor that we identified earlier. These challenges are based on our claim that there is a general move or shift going on within current socio-cultural theories of learning. This shift we have characterised by an increased interest in learning across boundaries or between different activity systems – to take up the terms from Cultural Historical Activity Theory. This shift is also reflected in the broader metaphor of networked learning in employing terms and understanding such as the importance of weak and strong ties. Equally, in a recent research proposal by Wenger (2005) we see a tendency towards focusing more on movements across boundaries and notions such as multi-membership, trajectory and identity. Throughout the analyses we have incorporated discussions of these challenges and we will now try to sum up the main points from these. We are fully aware that our case cannot be directly compared to mainstream networked learning environments within university education. However, we believe that choosing a case as Arto have opened to some interesting questions, in relation to the challenges we have sketched out.

Initially, we voiced a concern in relation to understanding networks primarily as a specific structure or composition of relations that can be graphically represented or mathematically described. Though, all networks may share similar underlying structures we have tried, through the analyses, to describe that the social rules and practices for such networks might look very different and that the representation of the structural properties might not fully reflect the meaning-making processes or views of the participants. We have argued that, though some nodes on Arto might appear to be central nodes or strongly tied with others, this does not necessarily reflect the participants understanding of what would constitute a central or influential node. We have pointed out that having multiple relations, through the friends list, does not per se indicate that a person holds an influential or central position as a multiplicity of relations are in themselves a debated issue within the network. To some people, a large number of connections could even signify a low social status (e.g. friend-hunters). By this we certainly do not mean to say, that structural analyses cannot reveal potent and interesting analyses of such sites. We merely point out, that having an understanding of the meaning making processes might be a condition to identify parameters to include in such an analysis. Maybe it would turn out that other ways of relating to each other (than e.g. the friend lists) would yield a different picture of centrality, as we have highlighted through the users' creative use of the profile texts. This is also very much related to the third question we asked. This question concerns the identification of weak and strong ties and what parameters can be used to judge, whether a relation is strong or weak. Flow of communication between two nodes may suggest a strong relationship, but as we have pointed out in the analyses; the 'content' and the meanings assigned to different types of relations can vary greatly. Though two nodes may interact frequently in a discussion group about "The Simpsons", they might not feel that they are very strongly related in the sense of 'friendship' or even 'acquaintance'. Therefore, based on the analyses, we would argue that identifying the parameters, which are used to judge, whether a relation should be termed weak or strong may contain other aspects than e.g., number of exchanges between nodes. The parameter used is a very important issue that should not be rendered unproblematic.

Finally, we posed a question referring to what actually constitute the networks or unit of analysis. If we are increasingly interested in notions such as interacting networks, multimembership and boundary crossing, then what is the unit of analysis? Though, we are aware we have chosen a case that is not directly comparable to e.g. a university course, we would hold that we have chosen a case which actually shows the multiplicity of relations and networks most people are engaged in. Delineating the unit of analysis is of course a common challenge in all research enterprises, but if we explicitly aim to study multi-membership and boundary crossing or learning happening across contexts these tensions become aggravated. As we have pointed out in the analyses the users of the site engage in multiple networks and how we can follow the movements across such networks or even identify which networks are most important, becomes problematic as also Enriquez (2006) points out in her paper.

We cannot present final or full-fledged answers to any of these challenges, but we will suggest that one (out of many) venture points into understanding social forms of organisation and networks could be to incorporate the notion of identity or 'networked identity'. We find that this concept can give some direction in relation to the questions. We would suggest that this notion might serve as an anchorage in engaging in analyses of complex network environments. As we have argued we view networked identities as fundamentally multidimensional and relational, which means that the unit of analysis cannot be delineated to an individual, and neither can it be reduced to just one particular network (or CoP); rather the analytical task would be to engage in an

understanding of the relations between the nodes and the multiplicity of networks they engage in. Since the term networked identity is very much inspired by Wenger's (2005) notion of identity it also rooted in the understanding of meaning. However meaning is not tied to a CoP, but is seen as being negotiated and acted out in the intersections of different, overlapping networks. The negotiation of meaning within particular network structures we view as important in relation to the challenges we have mentioned. From this we would argue that the meaning-making processes, which unfolds and are enacted in the networks, are central in order to understand and identify the parameters to judge, whether relations count as weak or strong; and also in unravelling the content of or types of relations.

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