# 4. WHAT REMAINS OF COMMUNITY

## 4.1 A Relational Definition of ‘Digital Community’

When it comes to a definition of ‘online’ or ‘digital community’, actors currently involved in similar initiatives retain some aspects inherited from early experiences. This chapter explores the elements associated with ‘digital community’ in the applications submitted to Ars Electronica Digital Communities competition from 2004 to 2007. In other words, it ‘asks’ social actors themselves what they meant by this expression when they participated in a competition for ‘digital communities’.

To do so, I have initially relied on textual analysis applications, and then conducted more fine-grained, qualitative analyses.[[1]](#footnote-1) *Leximancer* is a data-mining software originally developed at the University of Queensland in Brisbane. It can conduct both thematic analysis, by identifying main concepts based on their frequency, and relational analysis, by measuring how often concepts occur close together within the same text.

A combination of thematic and relational analysis is ideal to address this book’s main epistemological concerns, recalled in the introduction. The chosen software could perform concept extraction without forcing the researcher to define key concepts in advance,[[2]](#footnote-2) nor did it borrow them from a predefined generic dictionary. It extracted its own dictionary for each document set from the co-variation among high-frequency words in the text collection. For each high-frequency word, the software extracted a thesaurus; through the thesaurus, concept classes were calculated so that co-occurrence patterns were maximized. While not being ‘neutral’, such a calculation had the advantage of defining a concept not by any substance, but by a list of associations.

Results can be displayed in three different ways. First, a conceptual map provides a bird’s eye view, represents the most frequent concepts and how they co-occur. Furthermore, a ranked linked list summarizes the main concepts and gives access to their patterns of co-occurrence. Finally, a browsing function allows navigating through the textual excerpts of a concept or of a co-occurrence between two concepts. In summary, Leximancer provided a means of both quantifying and displaying the conceptual structure of a document set, as well as a means of using this information to qualitatively explore textual excerpts.

Differently from the analysis reported in the next chapter which did not profile any starting concept, the analysis in this chapter profiled the conceptual network associated with ‘digital communities’.[[3]](#footnote-3) The software was set in a way that words that often co-occur with this string made up a thesaurus. Words in the thesaurus displayed a high *relevancy value*: they tended to appear frequently in blocks of text where the string appeared, and to be absent elsewhere. The thesaurus for the concept ‘digital community’ included the following terms (in decreasing order of relevance): [[4]](#footnote-4)

community, online, virtual, communities, [[takingitglobal]], combines, [[east\_kilbride], self-help, supportive, [[ubuntu]], telecentre, [[socrates]], librarians, aphasics, [[seniornet]], nonprofit, [[social\_edge]], [[namma\_dhwani]], nsw, orientation, communitybuilders, disenfranchised, [[icohere]], [[bawb]], -operation, [[tapped\_in]], [[catcomm]], [[i-neighbors]], neighboring, qualitative, [[netco]], [[codetree]], gatherings, [[aboriginal]], aspirations, [[ngv]], place-base, [[war\_zone]], [[budikote]], nurturing, customised, [[global\_south]], [[modernist]], recognizes, complain, programmatic, delays, publicize, wisdom, astonishing, cares, king, promotions, instructional, [[new\_town]], [[canonical]], [[minnesota]], war-affected, [[content\_village]], [[fabasoft\_egov-forms]], reservation, folksonomies, hometown, marginalised, [[commkit]], grrrl, zine, [[wbt]], first-hand, [[mongrel]], deepen, [[arrernte]], netznetz, investments, zines, affords, definitive, argue, descent, signifiers, legacies, courageous, [[nkca]], [[mol]], guesthouse, mediatheque, [[virtual]], [[official\_proceedings\_online]], [[econtent]], harnessed, impoverished, statewide, [[transmission]]

What strikes at first sight is the high percentage of proper names (39.3%). They mainly refer to digital initiatives and FLOSS development communities (e.g., *Transmission.cc, Ubuntu, Catcomm, Taking it Global, NGV*, etc.), while a limited number refers to geographical names (Minnesota, ‘Global South’). At a deeper observation, some terms related to a potential ‘grassroots empowerment’ theme are visible: ‘self-help’, ‘supportive’, ‘disenfranchised’, ‘nonprofit’, ‘marginalised’, ‘global\_south’, ‘cares’, ‘communitybuilders’, ‘impoverished’, ‘nurturing’. There appear also some Web 2.0-related items (‘folksonomies’, ‘customised’, ‘investments’), as well as some references to local, territorially bounded communities (‘neighboring’, ‘i-neighbors’, ‘place-based’).

However, words appearing in the thesaurus are only ‘seeds’ from which new concepts are ‘learnt’ through stochastic calculus. Indeed, the combination of thematic and relational analysis is aimed to cluster together concepts that co-occur often together and rarely with others. Four different types of metrics result: 1) the most frequent concepts (see Table 2 in Annex C); 2) the strength of links between concepts (i.e., how often they co-occur); 3) the centrality of each concept to the data set; 4) similarities in the context in which they occur. Figure 1 shows the conceptual map for ‘digital community’ as extracted from the Ars Electronica’s data set. The strength of a concept’s label relates to its relative frequency in the text, varying from black (highly frequent) to light grey (less frequent). The size of the concept point indicates its connectedness. Nearness in the map indicates that two concepts appear in similar conceptual contexts. The colour indicates thematic groups.

Figure01

Figure 1 – Conceptual map for ‘digital community’. Bird’s eye

Taking a bird’s eye view, some concepts tend to remain close to each other at every resetting and re-learning and to form clusters:[[5]](#footnote-5)

* ‘education’, ‘training’, ‘rural’, ‘development’;
* ‘community’, ‘members’;
* ‘social’, ‘physical’, ‘real’, ‘build’, ‘help’;
* ‘learning’, ‘resources’;
* ‘individuals’, ‘change’;
* ‘collaborative’, ‘include’, ‘model’, ‘groups’;
* ‘youth’, ‘organizations’.

Other concepts are more unstable: they travel across the map from time to time and do not establish permanent ties with any other concept. ‘Tool’, ‘creating’, ‘support, ‘cultural’, ‘world’, ‘network’, and ‘sharing’ are instances of such loose concepts.

To understand the meaning of these behaviours it is necessary to take into consideration what nearness in the map represents for Leximancer. The map is initially built by placing the concepts randomly on the grid. Each concept pulls other concepts with a strength related to their co-occurrence value: the more frequently two concepts co-occur, the stronger will be the force of attraction (the shorter the spring that connects them), forcing frequently co-occurring concepts to be closer on the final map. However, because there are many forces of attraction acting on each concept, it is impossible to create a map in which every concept is at the expected distance away from every other concept. Rather, concepts with similar attractions to all other concepts become clustered together. That is, concepts like ‘education’, ‘training’, ‘rural’, ‘development’ that appear in similar regions in the map also appear in similar contexts in the data set, i.e. they co-occur with the other concepts to a similar degree. On the contrary, loose concepts like ‘tool’, ‘network, ‘support, ‘cultural’, ‘sharing’, although being quite relevant for the main concept profiled (their labels tend to black), exert different degrees of attraction on the other concepts. That is, they frequently co-occur with ‘digital community’, but do not so much appear in similar contexts with other concepts.

For this reason, the clusters above mentioned may be conceived of as recurring themes and might be renamed[[6]](#footnote-6) as:

* rural/local development through education;
* community’s organizational aspects;
* contribution of the digital realm to the physical one;
* knowledge resources;
* individuals as agents of change;
* models of inclusion through collaboration;
* youth organizations.

## 4.2 Recovered and Abandoned Paths

The attentive reader might recognize among those themes some of the topics that had accompanied the emergence and development of the digital communitarian culture, as recalled in chapter 1. First, Rheingold’s early, foundational distinction between real world and virtual life is implicit in the ‘contribution of the digital realm to the physical world’ theme. This theme mainly focuses on empowerment possibilities entailed by the emerging virtual domain, expected to solve long-lasting issues plaguing the brick-and-mortar world, as illnesses, poverty, and lack of democracy.

Second, in the above list there is a clear mention of communitarian localism through the ‘local development through education’ theme. As Rheingold’s computer networks find their communitarian dimension in the relatively small scale and in the sense of solidarity among peers, so improving local living conditions is a key goal for many submitters to the Ars Electronica’s competition. Strictly related, suspicion towards institutions and hierarchical forms of reputation is to be found in references to bottom-up communitarian organization.

Finally, the focus on individuals as agents of change resonates with cyberculture’s thrust towards decentralized, anarchic, and distributed forms of organization. However, early 2000s digital communities do not see decentralization as the outcome of technocratic delegation of control functions to machines.

Some remarkable evidence emerges when taking into account topics specific to early cyberculture, which are conversely absent from the 2000s list/map of relevant concepts. Among the 60 concepts extracted from the data set there is no reference to biological metaphors, nor to other cybernetic themes like, for instance, ‘decentralization’. Another semantic domain that looks absent is the one related to the Web 2.0: if some references appeared in the initial thesaurus, they have disappeared in the final concept list. Even more surprising is the absence of any explicit reference to technology: apart from a generic ‘digital’, that mostly features as an adjective of ‘community’, the only reference to technological artefacts, the web or software can be found under the label ‘tool’.[[7]](#footnote-7)

It should be recalled that an absence at this level of analysis does not mean that these topics are alien to the data set as a whole, but that they are not associated with ‘online community’.[[8]](#footnote-8) This is an outcome in itself. It is because these results number *only* the themes associated with ‘online community’ that we can trace the disappearance of some elements particular to ‘online community’ in early cyberculture from a nominally similar one (i.e., ‘online community’ in the Ars Electronica data set).

These shifts reveal to us which paths have been abandoned in our data set, with respect to original cyberculture: cybernetic discourse and its reliance on technology as a neutral organizational agency and the immaterial gift as a way to upkeep communities as a social homeostat. Conversely, if we investigate which new combinations are explored and which new elements are associated with ‘online community’ among the above themes, only one element is new, namely the reference to ‘youth organizations’. A clear sign that new framings in 2000s have taken the place of the old ‘online community’.

## 4.3 The Possible Coexistence of Groups and Networks

In the Ars Electronica data set, the concept that most frequently co-occurs with ‘online community’ is ‘development’, followed by ‘local’, ‘world’, ‘members’, ‘digital’, ‘support’, ‘social’, ‘creating’, ‘tool’, ‘resources’ (see Table 3 in Annex C). In figure 2, the co-occurrence pattern for ‘online community’ is also revealed by the brightness of the links, which represents to how often two connected concepts co-occur closely within the text.

Figure02

Figure 2 – Co-occurrence pattern for the concept ‘online community’

The most interesting results concern the co-occurrence between ‘online community’ and ‘networks’. This provides the opportunity to recall Wellman’s argument about communities made up of networks rather than groups (see section 3.1). One can notice that in the Ars Electronica data set ‘online community’ co-occurs more frequently with the term ‘groups’ (2.4% of instances wherein ‘online community’ occurs) than with the term ‘networks’ (1.9%). Furthermore, in figure 2 ‘groups’ corresponds not only to a single concept, but also to a thematic cluster including other concepts like ‘collaborative’, ‘include’, ‘model’, while ‘networks’ appears as a loose concept which does not co-occur with other concepts.

In order to verify a hypothetical counter-argument to Wellman’s, I conducted a further co-occurrence analysis by means of Boolean textual software, *InfoRapid Search and Replace*. My aim was to test his distinction between communities as bounded groups vs. loose networks by translating his argument first into a set of hypotheses and then into logical strings.

Here are the hypotheses. If Wellman’s argument was true, when one carries on a search into a data set made of accounts, the number of cases wherein the term ‘online community’ co-occurs with the term ‘network’ should be higher than the number of cases where the term ‘online community’ co-occurs with the term ‘group’. Moreover, Wellman’s sharp distinction between groups and networks would lead to expect that ‘network’ and ‘group’ be mutually exclusive and very rarely occur together. Even more, they should not jointly co-occur with ‘online community’. Figure 3 visualizes these hypotheses and translates them into equations.

Figure03  
Figure 3 – Logical intersections between ‘online community’, ‘network’, ‘group’

A represents the intersection of ‘online community’ with ‘group’, that is, the cases where both terms ‘online community’ and ‘group’ are present in the same submission. B represents the intersection of ‘online community’ with ‘network’, C the intersection of ‘group’ with ‘network’ and D the intersection of ‘online community’, ‘group’, and ‘network’. Using this scheme, one can extract three hypothetical equations from Wellman’s argument:

1 - A < B (intersection of ‘OC’ and ‘group’ is minor than the intersection of ‘OC’ and ‘network’)

2 - C = 0 (intersection of ‘network’ and ‘group’ equals 0)

3 - D = 0 (intersection of ‘OC’, ‘network’ and ‘group’ equals 0)

To verify these equations, I conducted text search with Boolean operators throughout the whole data set. I first replaced plurals and compound expressions, thus obtaining three strings – ‘DIGCOM’, ‘network’, ‘group’ – suitable to run the Boolean search. I then coded the equations into logical strings:

1. As to the first hypothesis (A<B), I coded A as DIGCOM&group&!network (intersection of ‘DIGCOM’ and ‘group’ and not ‘network’) and B as DIGCOM&NETWORK&!group (intersection of ‘DIGCOM’ and ‘network’ and not ‘group’). The resulting equation to be tested was DIGCOM&group&!network < DIGCOM&NETWORK&!group
2. To test the second hypothesis (C = 0), I coded C as group&network. The resulting equation was group&network = 0
3. To test the third hypothesis (D = 0), I coded D as group&network&DIGCOM. The resulting equation to be tested was group&network&DIGCOM = 0

As a matter of fact, all the three hypotheses derived from Wellman’s argument were falsified. Running a Boolean search across the Ars Electronica data set, I found not only that ‘group’ and ‘network’ are not mutually exclusive, but also that ‘digital community’ occurs more often with ‘group’ than with ‘network’. Let’s see the results for the three hypotheses in detail.[[9]](#footnote-9)

**First hypothesis: A < B**. Actually, it turned out that A > B. A (intersection of ‘DIGCOM’ and ‘group’ and not ‘network’) = 401 occurrences, while B (intersection of ‘DIGCOM’ and ‘network’ and not ‘group’) = 208 occurrences. In less formal terms, in the data set there were more cases in which ‘group’ and ‘digital community’ co-occured without ‘network’ than cases in which ‘network’ and ‘digital community’ co-occured without ‘group’. Therefore, the first hypothesis was falsified.

**Second hypothesis: C = 0**. On the contrary, the Boolean search found that C (intersection of ‘group’ and ‘network’) = 3117 occurrences. In other words, in 3117 cases ‘group’ and ‘network’ co-occured together in the same submissions. Again, the hypothesis was falsified.

**Third hypothesis: D = 0**. The result of the second hypothesis found further confirmation when verifying the third one. The Boolean search found that D (intersection of ‘group’ and ‘network’ and ‘DIGCOM’) = 2144 occurrences. In less formal terms, I found 2144 cases in which ‘group’, ‘network’, and ‘online community’ co-occured together.

In summary, by running a Boolean search across Ars Electronica’s Digital Communities archive, I found more cases in which ‘group’ and ‘online community’ co-occur than cases in which ‘network’ and ‘online community’ do. Furthermore, not only ‘group’ and ‘network’ are not mutually exclusive, but they occur very often together in accounts by social actors directly involved in online assemblages.

From these results three considerations may be drawn. First, loose networks are not the exclusive form of sociability when it comes to communal ties online. Rather, they co-exist with other models of sociability that actors label as ‘groups’, whatever it means. It is likely that different models of sociability fulfil different functions, even if this consideration remains at the level of hypothesis and does not follow from the results.

Second, as we know from technology studies, rarely is linear evolution the best model to explain techno-social change. Rather than a situation where newer forms of sociability progressively replace older ones, the results show their co-existence. The relationship between information technology and social forms is definitely much more variegated than one could expect, and social change cannot be linearly inferred from technological evolution. Just as internet and mobile technologies have not killed television yet, there are many probabilities that loose networks won’t eradicate bounded groups in the coming years. For social scientists, avoiding sharp dichotomies that shrink the abundance of the social into predefined tracks might probably turn out to be more laborious, but it is well-known that approximation has always been an enemy of science.

Third, the results corroborate the appropriateness of the methodological choice to refrain from adopting any established type of aggregate as an incontrovertible starting point. Since ‘network’ and ‘group’ are not even seen as mutually exclusive by social actors themselves, it is difficult to figure out how one of the two should be a better starting point for inquiry. From the comparison of well acquainted sociological positions with rich and multi-faceted accounts the need to level up social actors’ own accounts to academic arguments emerges. The results should thus not be read as a further demonstration of the inability of social actors to understand the macro-structural trends at work in the world they inhabit. Conversely, these results suggest the need to jointly investigate macro-structural trends and perception, *episteme* and *doxa*. ‘Sociologists are on par with those they study, doing exactly the same job and participating in the same tasks of tracing social bonds, albeit with different instruments and for different professional callings’.[[10]](#footnote-10)

1. Furthermore, *InfoRapid Search and Replace* and a statistical application were used to conduct the last analysis reported in this chapter, namely the comparison between ‘groups’ and ‘networks’. [↑](#footnote-ref-1)
2. This preliminary definition is nonetheless possible, depending on how the software is set. [↑](#footnote-ref-2)
3. In setting the software, I defined ‘digital community’ by merging the terms ‘community’, ‘communities’, ‘online’, ‘virtual’, ‘digital, so that online/virtual/digital community have been made methodologically indistinguishable. [↑](#footnote-ref-3)
4. I am not reporting the whole thesaurus, but only the first, more often occuring terms with a relevancy value higher than 5.3. Items enclosed in double brackets are identified as proper names due to the amount of instances in which they are capitalized. [↑](#footnote-ref-4)
5. Being stochastic, the map needs to be reset and re-learnt several times before being stabilized. [↑](#footnote-ref-5)
6. Far from being arbitrary, the renaming proceeds from browsing into textual extracts in which the concepts clustered together co-occur. This is one of the cases in which the software’s browsing function facilitates joint quantitative and qualitative analysis. [↑](#footnote-ref-6)
7. Actually, ‘tool’ occurs quite frequently and, when browsing extracts, it works as an umbrella term for all kind of technological objects. [↑](#footnote-ref-7)
8. As we shall see in the next chapter, in fact, some of these absences will be filled up when we abandon the exclusive focus on ‘online community’. [↑](#footnote-ref-8)
9. The complete results of all the searches are reported in Annex C, Tables 4-7. [↑](#footnote-ref-9)
10. Latour, Reassembling the Social, p. 34. [↑](#footnote-ref-10)