

Mailing lists as discourse networks: the case of Iphealth

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ABSTRACT

This paper discusses the communication on intellectual property and health that takes place on a dedicated mailing list (Iphealth) run by the Consumer Project on Technology (CPT). The mailing list archives were studied by content and citation analysis. The list is more an information dissemination and news alert channel than a discursive forum in which strategies are discussed, as indicated by the low number of threads. The types of documents forwarded are diverse: 21 types of documents were identified, ranging from legal texts to company press releases. Most of the messages were forwarded press articles and the geographical location of the news reported spanned the globe. The posters are mainly working in NGOs, although other sectors such as academia, government and industry are represented. Thematically, the broad issue of the relationship between intellectual property (IP) and health revolves around AIDS drug patents. This is revealed by an analysis of the most frequently occurring word titles and classification of the messages according to the CPT's own "Intellectual Property and Health" site subject tree structure. The messages sent over the course of two months were coded to reveal which strategies according to Keck and Sikkink's (1998) theory of transnational advocacy networks (information, symbolic, leverage, accountability) were predominating at that moment. The predominant strategy is leverage, indicating that the issue was far from closed yet. The diversity of documents and their functions on the mailing list is used to reflect on the relationship of activism with the media, science, law and politics.

KEYWORDS

mailing lists, transnational advocacy networks, media, citation analysis, content analysis

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1. Introduction

This article addresses the broad question of the relationship between mailing lists and transnational advocacy networks by studying a concrete example of a list. Mailing lists are conceptualised both as a technology for computer mediated communication and as a discourse network, in which messages, words and authors are the nodes and social and cognitive links are reproduced between them as communication evolves. The emergence of transnational advocacy networks and the expansion of the Internet have coincided in time—this coincidence can be theorised as a casual relationship or as a co-evolution of social structures and technology. In any case, a study of the structure of the communication that takes place on the list reveals the uses of the list beyond the motivation of the owners and readers.

2. New social movements and the novelty of CMC

New social movement theory has been wrestling with the question of what exactly is new about the so called new social movements (Diani 2000a). To the debate on whether the novelty is due, to name a few possible causes, to the emergence of postmaterialist values, the involvement of the middle class in collective action or the centrality of identity, another question has been added: what changes have information and communication technologies (ICT) brought about in the processes of social movements?

The relationship between social movements and the media is well established as the following passage indicates:

"Gamson sees the media as not only a central tool in the production of cultural meaning, but also as one of the focal points in which social movements wage their contests to change public policy or perceptions. 'Movement activists are media junkies' he writes, and 'media discourse provides them with weekly, daily, sometimes hourly triumphs and defeats.'" (Fisher 1997, 3.11)

Social movements try to mobilise a variety of more powerful groups (which can be categorised broadly as 'the public' and 'leaders') and protest is mediated by the media which conveys the message (della Porta and Diani 1999, 169). New media presents new opportunities (and constraints) for mobilising groups and mediating messages. Note that I use the expression 'presents opportunities': neither social nor technical determinism seems to fit the richness of the interplay between social structures and technological developments (Bijker 1995; Latour 1999, chapter 6).

The potential of computer mediated communication (CMC) to change social movement processes has been recognised in the social movement literature (della Porta and Diani 1999, Diani 2000b, Zelwietro 1998, Myers 1998, Rodríguez 2002, Marres 2002, Riemens 2002). The changes observed can be summarised as follows:

- i) distribution of information that was not being distributed by traditional media

- ii) interaction between diverse members regardless of location
- iii) decentralised flow of information fostered by the computer network structure, less hierarchical but nevertheless co-ordinated
- iv) co-ordination of events across the globe
- v) ability to bypass institutions
- vi) ability to remain hidden
- vii) creation of new spaces for discussion
- viii) hacktivism, that is, new protest forms devised for electronic space^[1]
- ix) internal use within organisational units, for efficiency (cheaper, faster)
- x) densification of networks of aggrieved population

These changes are not limited to the processes of social movements but also to changes affecting those studying social movements: a new interdisciplinary field of Internet research has emerged. Within which disciplinary boundaries are such endeavours most fruitful? Within the confines of political science, those of communication studies or those of the emerging field of Internet research? What is certain is that the availability of data (despite its limitations) may open up new avenues of research:

"The computer activist network is a virtually untapped resource for data about social movements that can provide a great deal of information about the processes of social movements. Perhaps the most attractive feature of these computer networks is the accurate and easily traceable path left by activists... It should be recognized, however, that the records on communication networks are often incomplete. Participants communicate with others outside the computer network and spend time thinking about and working on movement activity completely independent of the computer." (Myers 1998)

On the other hand, what are the theoretical underpinnings that lend value to the data conveniently gathered from the Internet? I would claim that two main conceptual tools may help us to collect, query and read the available data: social movements can be considered as networks and their patterns of interaction studied (Diani 2000a) and communication is a genuine social operation which is recursively produced in networks (Luhmann 1997). Communication networks can be analysed with a repertoire of techniques such as network, content or citation analysis (Wellman 1998, Neuendorf 2002, Leydesdorff 1995).

3. Transnational Advocacy Networks

Keck and Sikkink define transnational advocacy networks as "relevant actors working internationally on an issue who are bound together by shared values, a common discourse and dense exchanges of information and services... Activists in networks try not only to influence policy outcomes but to transform the terms and nature of the debate" (Keck and Sikkink 1998, 3). Transnational advocacy networks are thus information networks aimed at changing policy and motivated by principles. Sperling et al (2001) and Diani (2000b) have pointed to the differences and similarities between transnational advocacy networks and social movements. Advocacy networks "mobilize smaller numbers of individual activists who use more specialised resources of expertise and access to elites" (Sperling et al 2001). Diani (2000b) also sets apart transnational networks from social movements *strictu sensu*, the latter being organisations mobilising mainly participatory resources and organisations focusing on professional resources. He argues that social movements resort to mass mobilisation and confrontation more often than

1. The debate on whether hacktivism is a proper form of social activism or more a inconsequential game started by irresponsible hackers is open, as can be seen in Riemens (2002) and Medosch (1999). Medosch (1999) argues that virtual protest may subtract value and attention from the real one (on the streets), may lack content and create negative backlashes. Riemens (2002) warns against the simple reduction of two different cultures, that of hackers and that of political and social activists, into one category, fashionably labelled as 'hacktivism' or 'hacker culture'.

transnational networks do. What sets transnational networks apart for Diani is the lack of (national) membership and mobilisation tactics. Nevertheless Diani (2000b) deals with transnational networks together with social movements proper—that is not surprising as transnational networks constitute the structure that is most evidently reticular in nature of the three structural typologies he analyses and at the same time he defines social movement as networks.

But how influential is ICT in these networks? If one conceptualises them as information networks, the question is again relevant. As far as the impact of ICT is concerned, Diani's (2000b) exploratory considerations do not expect to find a variability so great that it warrants different analysis for transnational networks and social movement organisations. Differences of different collective action structures exist, but on the whole, ICT is viewed in all cases as a supplement to existing ties rather than as a creator of new ties.

Tarrow (2000) affirms that transnational social movements are not easy to create and when they are created they are more indebted to the existence of international institutions than to technology:

"More than international travel, e-mail or the Internet, international institutions can have the unintended result of encouraging the development of networks, identities and opportunities of citizens across borders."

He adds that "nation states remain the prime target and fulcra of political exchange" either because the interests of social movements continue to be framed by domestic political opportunities and constraints or because of the boomerang (Keck and Sikkink 1998) or triangular model of exerting influence in a national state through enlisting the power of other states or international institutions.

4. Consumer and health social movements

The consumer movement aims at protecting and strengthening the rights of consumers and was influential in Western countries after the Second World War in changing regulation and business practice in favour of consumer interests. The momentum of the consumer movement in the United States seemed to fade in the 1980s (Branningan Smith and Bloom 1989) but recovered in the 1990s as new fields of activity emerged, related to technological developments such as genetic bioengineering (food, medicines) and telecommunications (the Internet, mobile phones, e-commerce). Consumer advocates have established alliances with other movements such as for instance environmentalism.

On the other hand, health movements can be classified in different strands. Those that "seek health care system reform, including greater access and accountability", those that are more directly knowledge and science-based, those "largely concerned with illness experience" and consequently with identity (Brown et al 2002, 8-9). Depending on their nature, their objectives are based on different values: the first claim them to be based on the human right to health. The second and third focus on "restoring the health of individuals, challenging existing treatment and compensation policies, determining cause and preventing disease" (Brown et al 2002, 10). As a consequence of these differences in focus, the first group pursues a more radical approach to change as challenging existing structures is necessary for advancing their reform goals. The knowledge, experience and identity groups address macrostructure while pursuing what can be called primary "mainstream" claims: more research, funding and commitment for adequate treatment and prevention.

AIDS activism engaged heavily with science in order to promote research into an illness which when it appeared was completely new (Epstein 1996). After the introduction of combined antiretroviral treatment in 1996, the disease is not necessarily fatal if the treatment is successful enough to keep levels of the HIV virus in the infected bodies low, and the side-effects are tolerated. In principle, those infected can keep the development of the illnesses associated with

the syndrome at bay and lead a life as normal as that of other chronically ill persons. The exceptionalist alliance of the 1980s and early 1990s seems to have dissolved as the sense of emergency and urgency has subsided (Rosenbrock et al 2000). However, while in the developed countries the epidemic has been controlled and HIV/AIDS has become a chronic illness, in the developing countries a pandemic has broken out claiming, in 2001, 3 million lives and seeing 5 million more people infected (UNAIDS 2001). After normalisation in Western countries, the focus of AIDS activism has shifted towards treatment access activism, as international trade rules have been linked to global access to medicines under the label of "a new frontier of aids activism" (James, 1999):

"About 90% of people with HIV live in developing countries and have no access to modern medicines even when necessary to save their lives—in part because new drugs are usually patented for 20 years and priced for the developed world (...). The patent holders are multinational pharmaceutical companies, who have little interest anyway in marketing their drugs in poor countries—but the industry is intensely interested in preventing any precedents which might threaten major markets in the US, Europe or elsewhere (...). A growing international consensus holds that the current situation is intolerable."

Since 1999, prices of anti-retroviral treatment have dropped because of price reductions negotiated between the pharmaceutical companies and governments and international organisations, and policies promoting generic competition and compulsory licensing, as implemented in Brazil. However, the discounted prices are still high for the meagre health budgets of developing countries and not all countries have adequate laws for promoting generic competition and/or industrial capacity for local production through compulsory licensing. Both generic competition and compulsory licensing are allowed by TRIPS (Art. 30 and 31), which on the other hand, introduces more strict intellectual property regimes in developing countries. The introduction of a global intellectual property regime through TRIPS has run parallel to the outbreak of the AIDS pandemic in Africa and Asia. Activists claim that patents are a barrier to treatment because they increase the price of medicines, while industry claims that treatment is not accessible because of the poor state of the health systems in less developed countries and that patents are necessary to recoup research and development investments. This has spurred another exceptionalist alliance as a new urgency has been recognised and a new anger expressed. Eric Sawyer, interviewed by James (1999) after attending an international meeting on trade and intellectual property policies attended by activists, industry and international organisation officials on 25-27 March 1999, described the formation of this alliance as the most important outcome of that meeting:

"An amazing coalition of like-minded individuals formed there; many people working on patent and trade issues joined in a strong coalition with health care and AIDS activists in building a strategic plan to increase access to essential medicines, especially in the developing world. Plans were made for communication mechanisms—fax, mail and telephone lists, and probably more importantly a number of email list servers—an overall advocacy strategy to take us through the next couple of years. This strategy includes organizing around certain upcoming events."

From this description, three factors can be identified which play a role in the design and activities of such an 'amazing coalition': face-to-face meetings, communication technologies and actions organised around events such as WHO and WTO meetings, the passing of bills in US Congress and World AIDS day.

5. The Consumer Project on Technology and Iphealth

The Consumer Project on Technology (CPT) plays a central role in this coalition. CPT was founded by Ralph Nader and is headed by James Love. The organisation currently focuses on

two lines of action: e-commerce in particular and information infrastructure in general on the one hand, and access to health on the other. CPT has been joined by other organisations in their advocacy for affordable drugs in the southern hemisphere, such as Essential Action, Médecins sans Frontières, Oxfam International, Health GAP Coalition, the Third World Network, Treatment Action Campaign, ACT UP New York, ACT UP Philadelphia, ACT UP Paris, many of which formed the Health GAP (Global Access Project) Coalition in March 1999. This is not the only coalition advocating global treatment access as for instance this goal is also shared by AIDS Therapeutic Treatment Now (ATTN), which is led by the AIDS Healthcare Foundation. CPT has three permanent staff members and maintains a website at <http://www.cptech.org>^[ur11] with a section devoted to intellectual property and health. The information relating to the subject is exhaustive and archived in a classified manner. The organisation also runs several mailing lists or listservs, one of them being devoted to intellectual property (IP) and health (Iphealth). The list fulfils several functions: it serves as a forum to inform on the latest and most significant developments in the field, connects a community of interested individuals and organisations and provides e-mails reporting developments at meetings relating to health and IP (Lindsey 2001).

6. Data, Hypothesis, Methods, Results

Research on mailing lists has been spurred by several motivations such as the availability of new material for old questions, interest in the Internet as such or in asynchronous computer mediated communication (Langner 2001, 654). A combination of all three types of motivations can be found in most studies of mailing lists. For example, a mailing list on diabetes has been studied with citation analysis to reveal specific patterns of use of scientific and medical information (Wikgren 2001). All three motivations are present in this article: how do transnational advocacy networks structure their discourse as information networks? How do their public mailing lists convey this discourse? At the same time, this article also shares the limitations of other email list research, particularly that one can only "see parts of the picture and concentrate on the part of communication that constitutes the shared goods of a list (be it more the information pool or a social value produced)" (Langner 2001, 657), leaving out other types of communication.

6.1. Data sources and summary

Data from the Iphealth list on intellectual property and health was collected from the publicly available archives of the list at <http://lists.essential.org/pipermail/ip-health/>^[ur12]. At the moment of writing I have been a subscriber to the list for over a year. The archives cover messages from 20 December 1999 to date (July 2002) and comprise 3,042 messages for the period January 2001 to May 2002. (Prospective) subscribers to the list are informed that "each of these lists is archived, and the archives are public. That means that what you say on these lists may be indexed by various Internet search engines. Thus, the content of what you post will be public". Nevertheless, I asked the list administrator for his consent to study the list and he confirmed that the list is public and that he had no objection. At <http://www.cptech.org/lists.html>^[ur13] we are informed that private lists are also run by Cptech. In one message to the whole mailing list, the administrator clarified how the public character of the list affects the nature of the discussions on the list and therefore its function. He recommended discussing strategic directions of action between members of the advocacy network outside Iphealth, as the variety of subscribers (government officials, academics, industrialists) made the list too wide a circle for internal discussions.

The list activity fluctuates—peaks of activity were registered in March 2001 and October 2001 (see figure 1). In March 2001 the court case against the South-African government filed by the pharmaceutical companies association was being viewed and background, news and action calls relating to the case were posted on the list. In October 2001 two events coincided: the anthrax scare following the 9/11 attacks and the US government's

negotiations with Bayer to obtain sufficient quantities of the antibiotic Cipro at good price under the threat of issuing a compulsory license because of a health emergency (a situation analogous to the health emergencies faced by countries in the southern hemisphere because of HIV/AIDS) and, secondly, the preparations for the TRIPS Council meeting in Doha (Qatar) where the health emergency related provisions were to be (re)discussed. On average, the traffic amounts to 104 messages per month, that is, 3-4 messages a day. The list had 1,119 subscribers on 11 June 2002 (James Love, personal communication). In contrast, the monthly average number of people posting messages is 22.

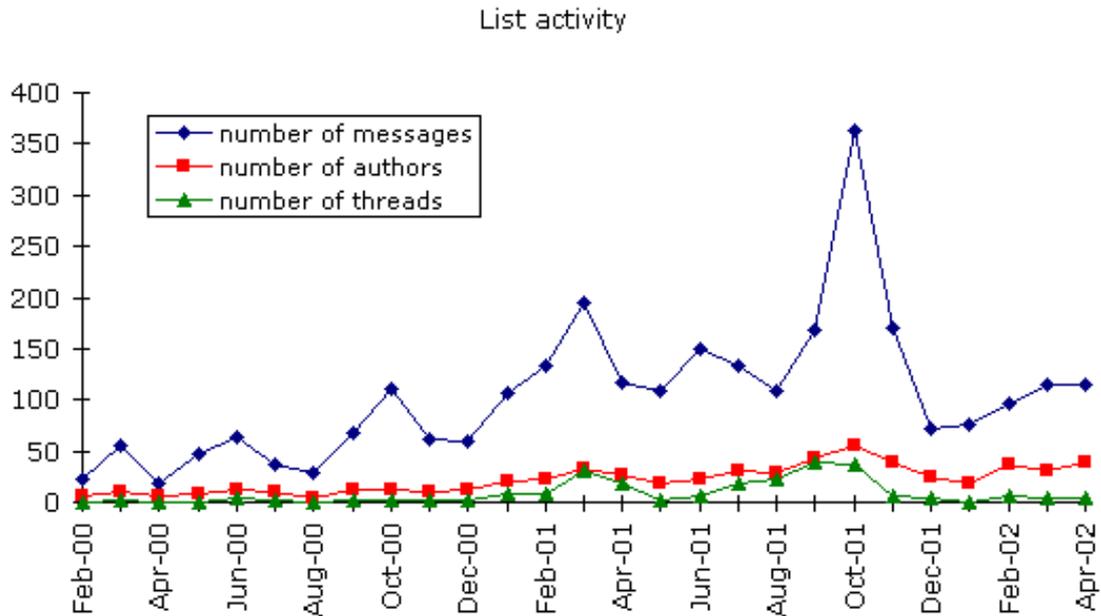


Figure 1. List activity

6.2. Hypothesis

Considering that the list is public in nature and is associated to a transnational advocacy network on intellectual property and access to and quality of health, the following hypotheses were formulated, which reflect at the same time a variety of inputs in the composition of the list (geography, subject, sectors, type of citations, strategies) and a selection in accordance to the goals of the network.

1. The subject-matter of the list is focused around a limited number of issues.
2. The documents cited are used strategically to create a public discourse drawing voices from a wide range of sources; nevertheless, there is a differentiation of functions according to document type and content.
3. The messages posted to the list cover events in countries around the world as well as global issues.
4. The posters have diverse geographical location and sectors of activity.
5. The list occupies a niche in an "ecology" of lists which are similar socially and cognitively.

6.3. Word analysis

The titles of the messages posted on the list are highly informative. Each of the messages usually carries a title that describes its content accurately. The list contains few threads and most of the messages have a unique title, in a manner more similar to the records in a database than to messages to discursive lists, on which many posters reuse the title of a previous message to express their views on other matters rather than those of the title (and sometimes not even relating to what is understood from the title). 3,042 titles containing 22,392 words from the messages from the beginning of January 2001 to May 2002 were collected. Stop words were excluded and related words were included as one (for instance, arv includes arv, arvs, antiretroviral, antiretrovirals, anti-retroviral and anti-retrovirals). The list of words was ranked by frequency of occurrence and all words that appear in less than 1 percent of the records were excluded. This resulted in a list of only 95 words (see table 1). The words were hierarchically clustered (using Jaccard's coefficient) and 23 clusters were obtained (see table 2). The most prominent cluster relates to HIV/AIDS drug prices, markets and access, followed by the cost of clinical trials and R&D, and generic drugs.

1	HIV/AIDS drug prices, markets and access
2	Cost of clinical trials and R&D
3	Generics
4	ARV in Kenya
5	Global fund and urgent call for action
6	Articles in New York Times about Bush
7	TRIPS council meeting at Doha and post-Doha development
8	Gene patent disputes
9	European Union
10	Laws for parallel import and compulsory license in Africa/US
11	Bill for cheap (drugs)
12	Act-UP
13	WTO's case against Brazil (in relation to Canada)
14	TAC press release statement
15	Activist for treatment
16	US trade department and Pharma letter
17	Responses and comments
18	MSF-companies make new policy proposal
19	List on public health / IP
20	Cipro / Bayer deal
21	Bristol Myers Squibb / Pfizer
22	Government and rights
23	Attaran's paper and industry

Table 1. List of subjects determined by hierarchical clustering of most frequent words

	Frequency	Percent
No citation	39	16.4
Newspaper	72	30.3
Science journal	5	2.1
NGO report	2	0.8
Gov. report	7	2.9
Legal	9	3.8
Advocacy / Activist publications	20	8.4
Website as such	11	4.6
Email from other list	7	2.9
Private email	8	3.4
General magazine	1	0.4
Newswire	12	5.0
Press release pharma.	5	2.1
Email from own list	15	6.3
Gov., political document, letter	12	5.0
Business documents, letters	5	2.1
Advocacy letter, not published	4	1.7
Transcript of TV, radio, PR	1	.4
Event	1	.4
Broadcast	1	.4
Joint industry/activist doc.	1	.4
TOTAL	238	100.0

Table 2. Frequency of cited documents

A frequency list is not a frame analysis because a frame analysis can only be made if narrative elements are considered, taking into account the cultural background of those expressing and receiving them (Fisher 1997, 6.2). The (clustered) word frequency list indicates what subjects are dealt with but do not tell us how. However, frame analysis has its limitations: it only provides useful information if the researchers study cultures of which they are members and do not distil prescriptive implications (Fisher 1997), "carries the risk of ad hoc explanations" (della Porta and Diani 1999, 82) and impedes scientific theorising because, by embracing the whole complexity of the issues, it does not allow for generalisations and comparisons due to the substantive differences across issues (Heger Boyle and Hoeschen 2001). In what follows, I follow Heger Boyle and Hoeschen's approach to evaluating information content by focusing on the strategic use of arguments primarily, and only secondarily on the arguments' import as such. In order to conduct this analysis in depth and to relate the strategic use of arguments to document type and subject matter, the messages in two consecutive months of average traffic were coded in detail.

6.4. Coding by tactics

The messages sent over two months (239 messages in January and February 2001) were coded according to the four strategies identified by Keck and Sikkink (1998) and used by Heger Boyle and Hoeschen (2001) in their analysis of the press coverage of female genital cutting:

"We created four broad categories of article content based on Keck and Sikkink's typology of network tactics. "Symbolic" stories are equivalent to human interest stories, focusing on images of individuals that humanize or individualize female genital

of commentary was positive in 61 percent of the cases and negative in 39. The lack of context within the message underlines the informative function of the list—the context is the list itself, the chain of messages are the context to each of them, and there is no need to introduce most messages explaining whether they are valued positively or negatively, or to explain why they are relevant to the subject-matter of the list. Previous selections of messages to be included (and complementarily which are excluded) creates in readers the expectation of what will be posted and why, as the taste of a collector or curator creates expectations as to what will be exhibited in a museum.

6.6. Coding by classification

Classifications reflect cosmovisions—what exists or not, what is the same and what is different, what is problematised and what is not (Bowker and Leigh Star 1999). For instance, one can compare the classification of the AIDS 2002 Barcelona conference^[url4] and the classification of the Consumer Project on Technology on Intellectual Property and Health^[url5] to deduce that:

- a) the AIDS 2002 conference has seven tracks grouped into two distinct main branches, namely, scientific and community branches, thus reflecting the separation of knowledge into two spheres: science and action.^[2]
- b) the Consumer Project on Technology follows developments in several interconnected areas as reflected in a tree structure with fine subdivisions with many cross-links.

The CPT classification scheme on health and intellectual property is used to code the Iphealth messages to collect information on the subjects dealt with during the two months studied in detail so that the relationship of subject matter with document type and strategies can be mapped.

6.7. Cross-tabling of codes: strategy vs. type of messages, strategy vs. classification, type of messages vs. classification

Three cross-tables were obtained to investigate the pair-wise relationships between three variables: strategy, types of messages and classification. Leverage is the predominant strategy of original messages without citations, newspapers, advocacy publications and messages replying to other email messages from the same list. Information messages are associated to newswires, government reports and legal documents. Websites were used in a symbolic manner while NGO reports claimed accountability (see table 4).

2. One can even hypothesise that attributed importance correlates with alphabetic order: a- basic sciences, b- clinical sciences and care, c- epidemiology, d - prevention science, e -social sciences, f- interventions and program implementation, g- advocacy and policy.

	I	S	L	A	None
No citation	7	2	13	3	14
Newspaper	4	21	30	16	1
Science journal	0	0	3	2	0
NGO report	0	0	0	2	0
Gov. report	3	0	2	2	0
Legal	7	0	2	0	0
Adv./act. public.	0	1	12	7	0
Website	3	4	2	2	0
Email other lists	1	1	3	2	0
Private email	2	0	3	3	0
Magazine	0	1	0	0	0
Newswire	6	1	2	3	0
Press release pharma.	1	1	2	1	0
Email own lists	2	1	12	0	0
Gov. policy doc.	2	1	5	4	0
Bus. doc. letters	3	1	1	0	0
Adv./act. letters	1	1	2	0	0
Transcript TV/radio	0	1	0	0	0
Event	1	0	0	0	0
Broadcast	0	0	0	1	0
Joint industry/act doc.	0	0	1	0	0
<i>Column total percent</i>	<i>18.1</i>	<i>15.5</i>	<i>39.9</i>	<i>20.2</i>	<i>6.3</i>

Table 4. Keck & Sikkink's (1998) strategies (I=information, S=symbolic, L=leverage, A=accountability) vs. type of documents

Analysis of the variation of strategies across issues (see table 5) reveals that leverage predominates in the all topics but one: pharmaceutical companies, international forums, economics and politics, and therapy and treatment. Accountability dominates the discussion on general policy, although all four strategies are represented in very similar proportions.

	S	L	I	A	None	Row %
Pharma. firms	7	12	4	9	1	13.9
International forums	0	20	6	6	0	13.4
Economics, politics	6	20	6	10	1	18.1
Therapy and treatment	12	31	16	9	0	28.6
General policy	11	11	11	14	0	19.7
None	1	1	0	0	13	6.3
<i>Column %</i>	<i>15.5</i>	<i>39.9</i>	<i>18.1</i>	<i>20.2</i>	<i>6.3</i>	

Table 5. Keck & Sikkink's (1998) strategies (I=information, S=symbolic, L=leverage, A=accountability) vs. subject-matter

Newspaper articles are the main suppliers of information for all topics. Information on pharmaceutical companies is also supplied to the mailing list mainly by advocacy publications and websites. Information on international forums is also found in press articles and advocacy publications. Therapy and treatment information is to be found in emails from the list itself too.

	Pharma. Firms	Internat. Forums	Economics, politics	Therapy, treatment	General policy	None
No citation	4	3	7	7	3	15
Newspaper	12	5	22	19	14	0
Science journal	1	0	1	2	1	0
NGO report	0	0	1	0	1	0
Gov. report	0	3	1	0	3	0
Legal	0	2	0	1	6	0
Adv./act. public.	5	5	2	5	3	0
Website	4	1	2	2	2	0
Email, other lists	1	1	2	1	2	0
Private email	2	1	0	3	2	0
Magazine	0	0	1	1	0	0
Newswire	3	1	0	4	4	0
Press release pharma.	0	0	1	2	2	0
Email, own lists	1	4	0	10	0	0
Gov. policy doc.	0	4	2	4	2	0
Bus. doc. letters	0	1	0	2	2	0
Adv./act. letters	0	1	0	3	0	0
Transcript TV/radio	0	0	0	1	0	0
Event	0	0	1	0	0	0
Broadcast	0	0	0	1	0	0
Joint industry/act doc.	0	0	1	0	0	0
Column total percent	13.9	13.4	18.1	28.6	19.7	6.3

Table 6. Type of document vs. subject matter

6.8. Coding by country

Both the country in which the events referred to in the message as well as the country in which the poster lives were coded. The latter was based on signature file if not present or if it did not contain enough information in the email address. If the subject matter of the message related to a global issue with no specific geographical indication the country code given was "global". Most of the posters are based in the US (81.7 percent), the rest of the authors living in Africa, Europe or Asia. Despite this overwhelmingly US presence, mainly due to the fact that the US-based owners of the CPT list send a constant stream of messages to the list, the countries which the messages referred to are more diverse: one third of the messages refer to the US, one third to global developments such as at the World Trade Organisation (WTO) or the United Nations and the other third to a wide range of other countries, the most conspicuous of which are South-Africa, Brazil and India in that order. In early 2001, South-Africa was the location of a legal battle between government and pharmaceutical companies over legislation on affordable drugs, in which activists sided with the government by becoming "friends of the court". Brazil was in conflict with the United States in the WTO settlement dispute council. Indian generic manufacturers were offering AIDS/HIV drugs at cheaper prices to national government and organisations such as Médecins sans Frontières.

6.9. Coding by sector of activity

Sector of activity (NGOs, academia, government, industry, consultancy) was also analysed in the same way as above, by inspecting signature files and/or email addresses.

Most of the posters were working at NGOs (86.1 percent) followed, a long way behind, by academics (4.2 percent).

6.10. Collecting other lists which share messages with Iphealth

This was done by inspecting the address fields (To: and Cc:) in the full raw archive of the list. This information cannot be exhaustive: sometimes the address fields contain the phrase "undisclosed recipients", sometimes the same message is sent several times to each of the lists separately. Twenty-three lists were identified, which can be broadly classified into lists on the following topics: AIDS activism, pharmaceutical consumerism, patents, e-commerce, the economics of the health and pharmaceutical industry, health and development.

7. Discussion

The data analysis confirms our hypotheses: subject matter focuses on the influence of patents in global access to health, especially in relation to HIV/AIDS in less developed countries—the list is specialised as can also be seen from the environment of lists in which it operates; a variety of documents are used to create a discourse on what the problems and solutions are in this area; while most documents are newspaper articles and the strategy they most frequently discuss is leverage; the geographical coverage of the list spans the whole globe through a selection of locations.

Besides the specialisation of communication, the results reveal the skewedness of communication, as far as authors and subject matter are concerned. Only around two percent of subscribers post messages to the list and the group of authors has a central core of regular posters. The number of messages posted on the list follows a slowly ascending trend with occasional peaks, after which activity falls back to previous levels, suggesting a maximum carrying capacity of the list—subscribers and posters seem to have convened that traffic should generally be between 3 or 5 messages per day. Otherwise, the stream of information might be too occasional to earn readership or, on the contrary, too heavy for the readers and poster to have time to manage. The subject matter of the messages also concentrates on a few topics. Only 95 out of 22,392 unique title words were used in more than 3 messages.

The thematic focus of the list contrasts with the variety of document types that relate to the topics addressed. Media messages are the most frequent, revealing the close relationship between mass media and activism and, at the same, the links between traditional media (mainly newspapers, but also radio and television broadcasts) and new ones (mailing lists). The information provided by traditional media is incorporated in the mailing list through two ubiquitous tools of networked computing: hyperlinking and cut-and-paste. The reference, citation, footnote and quotation of paper-based communication has its electronic counterpart in the hyperlink connected to a partial (snipped) or complete reproduction of the information item.

The list also refers to itself through citing previous messages and establishing threads or discussion, but most manifest is reference to others outside the list: the media, the pharmaceutical industry, science and government. This is not to say that no journalist, pharmaceutical company or employee, academic or government officials subscribes to the list, on the contrary, on the list itself the point has been made that they do, but they do not participate actively in a sustained manner. In other words, a persistent conversation between treatment advocates and the media, economy, science or politics is not created directly on the list. These hybrid conversations, if they exist, might take place elsewhere in other specialised conversation circles, as for instance the consultation rounds of patent law-making bodies with the pharmaceutical industry (Hutter 1989). However, reference is made on the list to what is being said in the media, science, industry and politics about the subjects that are of interest to the list.

The conversation between social subsystems is an indirect one, and the references made by activist discourses to other spheres find their counterparts in other discourses. For instance, science reflects on activism by discussing whether an article published in *Nature* on genetically modified maize (transgenic genes were claimed to have been acquired from natural maize) is good science or not (for the article that started the debate, which takes place partially in the pages of *Nature* itself, see Quist and Chapela 2001). The authors have ties with environmental organisations and are accused of not having provided accurate data analyses and interpretation. The debate exemplifies the asymmetric translation of science into activism and vice versa, with the permission of maize, as Latour would put it. The critics are accused of being financed by agrifood companies. The relationship between natural science and social movements is stronger in some fields such as health and environmental movements. Justice-based movements have closer ties with social sciences such as law, economics and sociology. In the case of the Iphealth list, most of the journal articles referred to are what I would call "social science" articles in "natural science" journals. Another example of these hybrid articles is Amir Attaran's article on the influence of patent protection levels on AIDS treatment penetration in different countries, which was published in *The Journal of the American Medical Association* (Attaran and Gillespie-White 2002). The interaction of science and social movements can be seen as a simultaneous competition and collaboration:

"One of the functions of 'social movements' is to put issues on the agenda for codification. However, social movements are not the only mechanism that is functional for this purpose. Science, notably sociology, has also a reflexive and anticipatory function at the level of the social system: social movements generate, among other things, the political pressure to legitimise the further development of the system, for example by making resources available for the sciences to reconstruct the issues thus placed on the agenda" (Leydesdorff 2001, 316)

Transnational advocacy networks need knowledge in order to analyse the problems, propose solutions and gain credibility through becoming experts in their fields of activity. Developing expert knowledge is a cornerstone of advocacy networks at the same time that this knowledge is produced in geographically dispersed locations with great social and political variability. The knowledge produced by transnational advocacy networks stems from "naturally" given comparative research designs. In the case of the treatment access advocacy network, comparison is not only a heuristic tool but the main thrust of their moral argument: why should the sick in the southern hemisphere have no access to the medicines available elsewhere? Moreover, comparison reveals strategies and solutions that work in some settings (AIDS treatment policies in Brazil, Thailand or Uganda), and efforts to transpose them to others can be undertaken.

It is not only science that reflects on activism: journalism also does so through the establishment of codes of practice or reflection on their own function. For instance, media professionals have reflected on what role journalists have in AIDS politics (Garrett 2000). Different views exist on how the media present issues: some think that "journalists tend to strive for a good story rather than represent all sides on a conflict" (Fisher 1997, 3.15) while others conceive journalists as those who should present the views of all sides involved in a conflict (Partal 2002, 3.2.2-3.2.3). On the other hand, if journalists just cut and paste somebody else's soundbites, is their role more transparent or just disguised behind an apparently transparent juxtaposition of voices? This can be linked with the alleged lack of investigative journalism, as journalists are happy to report claims parties make without making up their minds through research. Some claim that the media cannot report "the jury is out on this issue" but has to become the jury; Laurie Garrett in an article adapted from a speech delivered at the AIDS 2002 Conference in Durban expresses this view passionately:

"I think it's high time that the entire international media and press corps grow up. [...] We have to name corrupt names, we have to demand accountability. We have to demand truth. Those of you who are in science and public health here in this room, and who just applauded what I said, often speak of "using the media" to get out your message. You are fools. Pardon me, but nobody "uses" journalists... You should all appreciate this scrutiny, as an asset in the overall future of our fight against this epidemic. But first, there are some limitations on the media side. In the wealthy world most media organization have in the last few years been gobbled up by large

corporations... In the developing world much of the media is government-owned or tightly controlled." (Garrett 2000)

Thus, lack of investigative journalism cannot (only) be blamed on moral lassitude or cynicism of journalists, or their ties with capital or political power. The concentration of media in large corporations has influenced the way they work because of increased profitability expectations which force journalists to be faster and consequently less in-depth in their analysis. The journalistic practice has also changed as they are using communication technologies to collect, process and transmit information (Williams and Nicholas 1997). The views posted on a website or a mailing list run by activist/advocacy groups can thus be directly taken up by journalists, but do they prefer to rely on personal information? Which do they report more often, activist or official information? The information posted on activist mailing lists and websites can be read without the mediation of the media, but are those who use the Internet for gathering political information in fact merely following the mass media seeking it? There may be a differentiation into two fields, the super-informed elite and the minimally informed masses. The emergence of a social movement information elite has been pointed out by Castells (1997, 129-30):

"Through these networks, grassroots groups around the world become suddenly able to act globally, at the level where main problems are created. It seems that a computer literate elite is emerging as the global, coordinating core of grassroots environmental groups around the world, a phenomenon not entirely dissimilar to the role played by artisan printers and journalists at the beginning of the labour movement, orienting, through information to which they had access, the illiterate masses that formed the working class of early industrialization".

I conceive this information elite as a group who besides mastering the technical and social skills needed in the (re)production of knowledge and information has time to devote to it. People in this group may be NGO staff, academics, employees with flexible, shorter work time arrangements. In contrast, the general public is poorly informed: "because it takes time and energy to seek out, interpret and remember political information, it may be rational to free-ride on the civic attentiveness of others" (Dimaggio et al 2001). However, the cost of obtaining "alternative" information to that given in the media is significantly lowered by the Internet and, because it is possible in principle for every web user to become a web publisher, the Internet holds the promise of increasing political knowledge in breadth and depth. Is this interactivity the equivalent to the Habermasian coffee houses and salons of the eighteenth century which were vital to the creation of equalitarian open discussions on a variety of newly problematised issues (Habermas 1990, 97-98)?

In any case, "apparently interactivity has hardly any threatening potential for the elites" (Schultz 2000, 205). Both industry and governments embrace computer mediated communication for advancing their respective goals. Virtual brand communities are sustained by commercial web portals (Muniz and O'Guinn 2001) and governments promote e-democracy initiatives. This may be a sign of what Scott and Street (2000) refer to as institutional isomorphism, that is, presented with the same technological opportunities different organisations take on similar organisational structures. If states and corporations feel threatened by interactivity it is because it helps organise actions, construct identities and communicate secretly.

As Schultz (2000, 207) puts it, three caveats exist in assuming that increased opportunities for social movements and the public to communicate via the Internet will automatically bring about improved democracy, namely, (1) quality control and competition for attention, (2) fragmentation and (3) translation into action:

"Communication and participation alone do not mean much in terms of quality and value of content. Also, communication can remain without any significant effects as long as it is not transformed into communicative power and effective decisions [...]. Eventually, there is a seemingly trivial but most important consideration: the greater the number of communicators, the less time everyone has to listen to others; the smaller the size of interacting groups, the smaller their significance for society as a whole."

Quality control in political communication seems to be reserved to electing representatives,

bridged by a constant stream of polls between elections. Nevertheless, this political communication is brought to the attention of citizens as voters but also in their function of members of an audience. Mass media has developed the audience measurement industry as a functional equivalent of quality as selection criteria. The Internet seems to have developed hit count and link ranking to signpost interesting areas, which has evolved in strategies seeking preferred placement (Rogers 2000). It might be useful to compare these two mechanisms of selection of preferred contributions with those of science. Science has evolved publication and citation count systems such as the (Social) Science Citation Index to attribute value to communications, based on the fact that only a few science publications receive a sizeable number of citations, and thus attention, by others apart from their authors.

The question of how active audiences are is linked to their fragmentation. An audience is not a passive mass of receivers but constructors of meaning as messages can be interpreted flexibly (Hayne and Croteau 2000). This flexibility spans a broad range of representations and their associated groups. Social class, age, cultural context, ethnicity and gender are resources used to interpret political messages conveyed by the media. On the other hand, from these situated interpretations attempts at reconstructing unity are undertaken, such as for instance the claim of the media or principle-based protest movements to be the moral conscience of society. The shared moral entrepreneurship of social movements and media fosters their intimate relationship. But the tension unity-multiplicity cannot be resolved by moral appeal and public opinion remains fragmented, as this is also a condition for its reproduction: disagreement, or in other words confrontation, propels communication forward. Avoidance of conflicts leads to the creation of disconnected islands of consensus. The idea of the existence of "a" public opinion can then be formulated as the observation of a complex system which can be differentiated at different levels (global, national, local; science-based or based on lay knowledge) and whose behaviour is described by different rules at different levels (Van Ginneken 1999).

The translation of communication into action is the central aim of social movements: how to bring about change? The presence of a subject in public discourse seems necessary in order to change citizens, as well as powerful action groups, but may in some cases inhibit action, creating the false impression that something is being done about it. Moreover, backlash reactions can be unchained as for instance has been the case of opposition to the green movement by anti-environmentalism (Rowell 1996). On the other hand, there can be swift, massive changes in public opinion, as happened in the case of the Mururoa and Brent Spar protests (Van Ginneken 1999). How do activists operate in such a complex environment in which forecasts are systemically of little predictive value? According to Harrington (1998), AIDS activism has used four lines of action: (1) knowledge, (2) community building, (3) flexible coalition building and (4) reflection and feedback. Another strategy is seeking law making and enforcement that provides adequate solutions to the perceived problems. As Habermas (1996, 318) puts it:

"The production of legitimate law through deliberative politics represents a problem-solving procedure that needs and assimilates knowledge in order to program the regulation of conflicts and the pursuit of collective goals. Politics steps in to fill the functional gaps opened when other mechanisms of social integration are overburdened. In doing this, it makes use of the language of law. For law is a medium through which the structures of mutual recognition already familiar from simple interactions and quasi-natural solidarity can be transmitted, in an abstract but binding form, to the complex and increasingly anonymous spheres of a functionally differentiated society."

In the field of intellectual property and access to health, the importance of law is taken for granted as patents are legal titles, granted or refused according to patent law by specialised government agencies and courts, but still the debates on TRIPS in the framework of the WTO, and the translation of the intellectual property regime codified in TRIPS to national legislation, show an emphasis on the legal side of the issue at the expense of others, such as the performance or funding of health systems. And this is precisely the point of the treatment access advocates: access barriers are mainly due to law, specifically bad patent law. Of course other factors are recognised such as, to name a few, lack of public funds, lack of political commitment, poor infrastructure, poverty, neglect by big pharmaceutical companies of the

diseases prevalent in the southern hemisphere, but the solution to the problems necessarily entails the production of a (patent) law such that medicines are available to all. The rise of human rights as a political and juridical international issue during the second half of the twentieth century carried forward by a global group of advocates is another example of the link between activism and political law making (Sikkink 1998). Human rights are also appealed to in the case of access to health, as can be seen in the latest UNAIDS report (UNAIDS 2002, 62):

"In a world of AIDS, the lack of human rights protection can become a matter of life and death [...]. Around the world those most affected by HIV/AIDS are people and communities who have unequal access to fundamental social and economic rights [...]. Viewing the epidemic in this way also brings into sharper relief some of the prerequisites for an effective response: integrating principles, norms and standards as established in existing international human rights instruments, and using national and international rights institutions to realize these rights."

Basically, the right to the highest attainable standard of physical and mental health and the right to share in scientific advances and their benefits are directly related to the issue dealt with on the mailing list studied in this article. The attractiveness of following a strategy of defence of human rights is threefold: it raises the status of the issue to the core of what it is to be human, it makes it a global concern and it has a legal translation into human rights declarations, conventions and covenants that can be used in court. The use of law by activists relates to leverage and accountability strategies of influence.

In the wake of the rise of principle-based transnational networks that are able to influence international law making, institutional politics has bifurcated into specialised technocratic politics or media and polls politics. While the first appeals to the citizen to trust the expertise of government institutions and officials to reconcile interests in the only rational way possible, the second is riddled by scandals and emotional waves. Social movements, media and the law struggle daily with their dual functions of being mirrors and projectors of values, while institutional politics is less prone to do so as nation-states have given away power to international institutions, regional governments, entered private/public partnerships and outsourced humanitarian and social aid to intervention-oriented social movement organisations.

In this article, content and citation analysis methodologies have been used for analysing mailing lists. These methods can be used to analyse lists supplementing ethnographic or rhetoric studies. Extending bibliometric and content analysis to the Web through analogy is a promising avenue of research. However, new theories and methodologies are needed in order to understand the structures and functions of communication in cyberspace. Computer mediated communication in networks leaves electronic trails that can be reconstructed by researchers. In the case of the Iphealth mailing list the diversity of sources and their hyperlinked nature allow for exploring the relationships of activism with science, law, politics and the media. Citation structures reveal how activism mobilises the discourses outside, how activism draws friends and foes within.

URL list:

[url1]:<http://www.cptech.org>

[url2]:<http://lists.essential.org/pipermail/ip-health/>

[url3]:<http://www.cptech.org/lists.html>

[url4]:<http://www.aids2002.com>

[url5]:www.cptech.org/ip/health

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