On phatic technologies for creating and maintaining human relationships

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Abstract

In our time, with the growth in the Internet and associated technologies, technology and society are increasingly integrated. Although technology studies focus on the development of technical artefacts, systems and techniques, and their relation to society, current theories of technology do not seem to be sufficient to provide an understanding of new phenomena to be found in the intimate union between Internet technologies – our primary interest – and contemporary society. In this paper, we explore a concept of phatic technology in light of various technologies and theories about technology and society. The nature of a phatic technology is to establish, develop and maintain human relationships. Many technologies exhibit some degrees of phatic use. Examples range from telephones to software for social networking and building cybercommunities. We suggest that the Internet is a primary source of phatic technologies.

1. Introduction

Currently, some Internet-associated technologies seem to be increasingly used and some even created especially for social purposes. This set of technologies includes: (i) systems of email; (ii) commercial sites; (iii) social networking sites; (iv) a range of web-based software programs that allow users to interact and share data through social networking sites sometimes known as social software; (v) advanced three dimensional virtual worlds

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1 For example, Microsoft Mail (1988), Yahoo Mail (1997), Google Mail (2004).
6 Such as the social dimension of Misa et al.’s (2003) symbol-making technology.
account of it may be expected to involve a social context with a rich sociology, namely a community, constituted by the users of the phatic technology, in which personal and group goals need to be explicitly discussed.

In Section 2, we explain what phatic technology is. To better identify the special nature of phatic technologies, we first observe that while all technologies are created for human use, current theories of technology do not seem to be sufficient to provide an understanding of phatic technologies. Actually, current theories of technology do not seem to have identified communications technologies as a significant special technology. The gap between technology and communication studies of new media is discussed in Boczkowski and Lievrouw [2]. Our primary interest – Internet technologies – suggests a need to extend models of technology so that the cultural dimension of Internet technologies can be better represented. Secondly, we clarify the characteristics of phatic technologies. Communications technologies are not automatically phatic technologies, but some have been made phatic by their users – even if it was not intended by their producers. Thus, phatic technology is a subset of communications technology, where the essence of communication is relationship building not information exchanging.

Next, in Section 3, we discuss the origins of our technical term phatic technology, which is inspired by the linguistic concept of phatic communion coined in sociolinguistics in the 1920s. We have appropriated the term phatic for an abstraction that emphasises sociability and is free of its deep linguistic features. The relevance of phatic communion has been worked independently by others, e.g., Gibbs et al. [3]. Thirdly, we examine some reasons why the Internet is a primary source of phatic technologies. Software for the Internet in particular and World Wide Web (WWW) in general, is commonly intended for sharing information and encouraging interaction for a potentially vast user group.

2. What is phatic technology?

We will identify the special nature of phatic technologies and describe their characteristics. This will highlight the intimate relationship between technology and society, and acknowledge the emergence of a group of technologies known for their sociability.

2.1. Technology and society – changing perceptions

Theoretical ideas from technology studies may help to isolate the special nature of phatic technology from other forms of technology. A commonplace understanding of technology is that it refers to tools and machines, typically, those that are used to improve production, efficiency or economy. However, for many decades, studies of technological development have interpreted technology much more broadly. In fact, the search for suitable definitions for the term technology has generated a large literature.

In 1964, Ellul [4] extended our understanding of technology, from tools and machines to general methods to accomplish tasks in society, by introducing a general concept of ‘technique/technology’ to complement machines. In this view, technology has a social function to place machines exactly where they ought to be and requires of them just what they ought to do.

Since the 1980s, the view of users as passive consumers of technology had been challenged. Proponents of the Social Construction of Technology (SCOT [8]) approach conceived of users as a social group that plays an essential part in the construction of a technology. The general idea of a technological system was introduced to express the human dimensions of technology. Hughes [5] categorised a technological system as consisting of (i) physical artefacts (e.g., the turbogenerators, transformers and transmission lines in electric lights and power systems); (ii) organisations (e.g., manufacturing firms, utility companies and investment banks); (iii) social components usually labelled scientific (e.g., books, articles, and university teaching and research programs); and (iv) legislative artefacts (regulatory laws). For Bijker [6], “Technology will have at least three different layers of meaning: physical artefacts (such as bikes), human activities (such as making the bikes), and knowledge (such as the know-how to build bikes and the fluid dynamics used to model them in the laboratory)” (p. 231). In Biker’s [6] understanding, the word technology applies to both hardware technology (e.g., electronic chairs) and social technology (e.g., the traditional dike management system used in the Netherlands).

A key notion of the SCOT model is the role of the user group. A user group is a set of people who use a technology for some common purpose. Typically, it does not have a social structure though some particular technologies may be specific to exclusive professional groups. For example, some sort of social structure can emerge in user groups associated with advanced computer software tools through events and publications.

The SCOT model explores how different user groups influence the development and final form of a technological artefact. SCOT emphasises that technology does not determine human action, rather, human action shapes technology – it can be seen as a corrective to technological determinism [8]. The ‘shape’ of a technological artefact is the outcome of social processes – selection and variation – by relevant social groups (e.g., users and producers). In due course, “some of the variants ‘die’, whereas others ‘survive’” ([8], p. 411). Pinch and Bijker [7,8] describe this process as a technology’s interpretative flexibility. Different groups of users can construct quite different meanings for a technology; in time, the interpretive flexibility of a technology will vanish as a predominant meaning emerges among users.

The role of the user group is key in our understanding of phatic technologies. The user group of a phatic technology forms a community defined by the social function that is the “raison d’être” of the phatic technology. The user community is founded upon individual users’ personal needs and goals. In an extreme case, the use of a phatic technology becomes a ‘culture’ in its user community. For example, there is a ‘Twitter culture’ among its users (e.g., [9–11]). In this context, the term ‘culture’ can be understood as a set of values and beliefs that is generated by repetitive patterns of behaviour, enforced by both institutions and informal
social organisations. ‘Culture’ becomes a collective construction transcending individual preference, while influencing the practises of people in the culture [12].

2.2. Defining phatic technology

We now provide a definition of phatic technology.

A technology is phatic if its primary purpose or use is to establish, develop and maintain human relationships. The users of the technology have personal interactive goals.

The goals that are commonly found among the users form the social basis of a community. A phatic technology and its user community are rooted to a particular social context and the technology may be relevant to all human exchanges within the context.

2.3. Glossing the definition of phatic technology

The social technologies7 of the Internet, such as Second Life, Facebook and Twitter have very strong phatic use and may be the best current manifestations of phatic technologies. Besides the Internet, a vast range of existing technologies may exhibit, to a greater or lesser extent, some characteristics of a phatic technology in their use, if not in their initial producer intention. An example is texting via mobile phones [14,15].

A phatic technology must involve communication. Thus, phatic technology is a subset of communications technology, which is designed for processing and transferring of messages and information. Key communications technologies range from more traditional ones, such as radio broadcasting, telephone and television, to more recent ones, such as email, instant messaging systems, and visual messaging systems.

Indeed, communications technologies, such as the telephone and television, have certainly been the subject of analysis in the literature of Science and Technology Studies (STS) [e.g., [15,16]]. However, it is not clear that the special nature of communications technologies – its intimacy with human needs and actions – has been adequately explored. Further, the new technologies associated with the Internet add massively to the importance and timeliness of investigations of communications technologies.

There is a significant amount of research on communications technologies to be found in the literature of media studies, which is shaped by literary and philosophical influences. An attempt to analyse scholarship on media and information technologies at the intersection of the fields of Communication Studies and Science and Technology Studies (STS) was made in Boczkowski and Lievrouw [2]. They proposed to map the two fields in a unified way using three conceptual bridges that have been fruitful in both fields: (i) prevailing notions about causality in technology–society relationships; (ii) the process of technology development; and (iii) the social consequences of technological change. The common themes draw attention to the gaps. To bridge some of the gaps, we need a more fundamental conception of technology that will better express the integration/interaction of both social and technical aspects of human relationships.

Although all phatic technologies are communications technologies, we asserted earlier that not all technologies for communication are automatically phatic technologies. The issue may be resolved by examining who bestows phatic use to a technology. Both the producers and the users can give some degree of phatic use to a technology. In communications technologies, phatic use is largely created by the users; for example, the producer of a commercial website may provide, as an add-on, a forum for users to rate the products, but users commonly do not bother to do so. In purely phatic technologies, phatic use is deeply embedded by the producers, and without strong user participation in the process of development, the technology will fail.

There are different views of the relationship between producers, users and a particular technology (e.g., [17–19]). For example, the SCOT approach includes the proposal that users, as a social group, play an important part in the construction of every technology. Even though their focus is on the users, they do not disregard the important role of the producers. Bijker [20] has developed the notion that users and producers share a technological frame associated with a specific technology. The relationship between the producers, the users and the particular technology is part of a continuous, vigorous process of evolution, in which many different groups participate, and which may occur differently in their different social contexts. Individuals in the same social context may have different properties and, thus, dissimilar interpretations of a phatic technology’s social role and importance. For example, in Britain, a decade ago, about 77% of 14–16-year-olds had mobile phones [21]; these people used them mostly to send text-messages; other age groups use them mostly to make calls [22].

Producers of a technology may have in mind a group of individuals as potential users while designing, producing and marketing it [23]. After the introduction to the marketplace, the users may play a role in shaping the uses of the technology, and they may use the technology in unexpected ways, which may lead the producers to change their design of it [24]. Since this relationship is a part of an on-going process within larger social contexts, it has been suggested that non-users also have a role to play in shaping a technology (e.g., [25,26]). The non-use of a technology does not necessarily involve inequality and deprivation. Some people simply reject, i.e. choose not to use, a particular technology. However, even if they choose not to use it, their lives may still be affected by the existence of the technology; and the more users of the technology there are, the stronger the impact is. For example, in recent years, with the increase in mobile phone ownership, the number of public payphones has been reduced significantly.8 It is increasingly difficult for non-users of the mobile phone to find a public payphone in public spaces [28].

7 The term ‘social technology’ was first used by Helmer et al. [13], in their book titled Social Technology (1966).

Resistance to a new technology is also part of the interactive process of social change brought about by the technology. Kline [25] suggests that resistance results from different interpretations of a technology, hence should be categorised under interpretive flexibility in the SCOT framework. Even though resisters and rejecters are both non-users who actively choose not to use a new technology, resisters are more obviously involved in the relationship between producers and users. For example, some people resist mobile phones because they consider them, or their masts, dangerous. The reasons behind such resistance may stimulate further research and development from the producers of the technology in order to meet their objections and convert them into users.

Consequently, the phatic use of a technology is reflexively determined by the relationship between the producers, the users and non-users, and the phatic technology. At the heart of the relationship lies interpretive flexibility.

In a weak phatic technology, phatic use is created by the users, and depends on the ways the technology is used within different user groups. For example, eBay was created for business purposes. Communal features that were necessary were built in, for example, buyers and sellers rating sellers’ and buyers’ performance is necessary to create and maintain trust between strangers who are potential traders, and to help police users’ behaviour across international legal boundaries. But then features whose principal or sole purpose is to encourage users to regard themselves as part of a community were added, to deepen customer relations, e.g., ‘eBay community group centre’ to ‘create or grow your own community’ on any subject at all.

In a strong phatic technology, when the social purpose of its creation is significant and explicit, its phatic use is deeply embedded in the process of design and production by the producers and rapidly modified by its users within various social contexts. For example, Twitter was deliberately based on the idea of using a Short Message Service (SMS) to communicate within a small group. Although the original idea of communicating within a small group is still dominant in Twitter and senders are able to restrict message delivery to their lists of friends, now, by default, tweets (i.e. messages on Twitter) are publicly visible. In case of a technology with strong phatic use, the users may have as important a role as the producers in the designing, producing and marketing of the technology (see Section 3.3). The phatic technology may become deeply embedded in its users’ daily lives; not using it may be regarded as an odd or even deviant choice in a given social circle. In another circle, using it may be so regarded.

Mostly, the producers do not make phatic technologies. The origins of some of the more advanced Information and Communications technologies (ICTs) and Computer Mediated Communications technologies (CMCs) lie in various comparatively more traditional technologies with varying degrees of phatic use, from telegraph to telephone to mobile phone. The concept of a technology’s interpretive flexibility (above, 2.1) is especially relevant here. One subset of users employs the technology for social purposes. Hence, the technology becomes phatic with respect to this particular subset of users. For example, although not necessarily invented for business purposes, the telephone was supposedly produced for business purposes. However, to a community of women living in rural America, the telephone had an important function in establishing, developing and maintaining social relationships among this community of women and it has been a phatic technology since the early 20th century [25,29].

3. Linguistic origins and communications technologies

In general, the study of communications technology in linguistics is to see “how technology changes language use, how social actors adapt to technology limitations and thereby bring into sharp focus basic social processes in human interaction, and to inform the design of technologies based on theories of language and the requirements of communication dynamics” [30]. Recent research tends to focus on the study of language data to record the effects of human–computer interaction. Unlike existing research, our conception of phatic technology involves a more fundamental influence of the field of linguistics on communications technologies.

The term “phatic” has its origins in the Greek phanai which means to speak. The Oxford English Dictionary defines phatic as “…of designing, or relating to speech, utterance, etc., that serves to establish or maintain social relationships rather than to impart information, communicate ideas…” (our italics). The term ‘phatic technology’ is inspired by the linguistic concept of phatic communion. This latter term originates in the British school of sociolinguistics, which is closely affiliated with anthropology and cultural concerns. Currently, phatic communion appears in sociolinguistics to designate a mode or type of discourse [31].

The primary objectives of this section are: firstly, to explain the linguistic origins of phatic technology, which rest upon phatic communion; secondly, to propose that phatic communion – known for its contextualised and human embedded nature – can be considered as a significant phatic technology; and thirdly, to suggest that the Internet is a primary source of phatic technologies.

3.1. Understanding phatic communion

To prepare for its adaptation to technology, we will look briefly at the development of the concept of phatic in linguistics. The word ‘phatic’ enters the English language in the term phatic communion, which was first introduced in Malinowski’s widely cited 1923 essay The Problems of Meaning in Primitive Languages.10 Malinowski invented the phrase phatic communion to refer to

“a type of speech in which ties of union are created by a mere exchange of words.”11

9 Bell’s mother and wife were deaf, and Bell invented the phone to help those who suffered from hearing problems [27].
10 The essay is a supplement to The Meaning of Meaning – A Study of the Influence of Language upon Thought and of the Science of Symbolism ed. Ogden & Richards 1923.
11 [32], p. 315.
It is the instantiation of “the function of speech in mere sociabilities... [which is] one of the bedrock aspects of man’s nature in society” ([32] p. 314). Although phatic communion is understood as “talk that is aimless, prefatory, obvious, uninteresting, sometimes suspect, and even irrelevant”, it is “part of the process of fulfilling our intrinsically human needs for social cohesiveness and mutual recognition” ([31], p. 209), and as is clear from Malinowski’s discussion, it may be “what is communicatively a most human process” ([32], pp. 315–6; [31], p. 211).

Phatic communion’s significant function of sociability has been increasingly recognised since Malinowski saw it as a form of small talk. Post-Malinowski treatments of phatic communion often describe it as referentially deficient and communicatively insignificant. Abercrombie ([33]) wrote “the actual sense of the words used in phatic communion matters little” (p. 3). Turner ([34]) saw phatic communion as semantically empty and “designed more to accommodate and acknowledge a hearer than to carry a message” (p. 212). Hudson ([35]) defines phatic communion as “the kind of chit-chat that people engage in order to show that they recognise each other’s perspective” (p. 109).

Thomas et al. ([36]) list phatic as one of their 12 “activity categories” in communication, and define the category as “speech that initiates conversation, but [that is] conventional and ritualised, such as ‘hello’, ‘how are you’, etc.” (p. 148). Their perspective is supported by further research on small talk and gossip (e.g., [37–39,48]).

Laver ([40,41]) shifted analytic attention of phatic communion to the positive and functional (cf [31]). His position is exemplified in his debates with Firth ([42]). Laver perceives phatic communion as a tool, known only for its (three) social functions; Firth considers it as a culture and ritual. Laver’s three functions of phatic communion reveal the most compelling interpretation of its functionalities: propitiatory, exploratory and initiatory. The propitiatory function defuses possible attributions of hostility through silence. Simultaneously, phatic opening phases also serve an exploratory function in the tentative nature of such exchanges. The initiatory function serves to get the interaction under way. In closing sequences, especially in conversation closing, reinitiating phatic communion (e.g., ‘it’s been nice to talk to you’, or ‘see you soon’) may mitigate a possible sense of rejection and help consolidate a relationship, serving the propitiatory function again.

Firth’s ([42]) cultural and ritual perspective also has something to offer us, because cultural and ritual sequences are far from purposeless. Laver’s ([40,41]) speculative predictive mechanism specifies how speakers are able to stake claims about solidarity/intimacy and status relationships through particular encoding choices within phatic talk. This speculative predictive mechanism is also indicated in Brown and Levinson’s ([43,44]) politeness model and in their suggestion that cultural rites find their origins in conventional, local demonstrations of person-respecting and relational management. Hymes also pointed out that “even if the what of a ritual is predictable... there is information in the how: In a perfunctory manner, with feeling, haltingly, masterfully, respectfully, disrespectfully” (Hymes’ personal communication in [31], p. 212).

Other academics have explored the functionality of phatic communion. In Jakobson’s ([45]) taxonomy of six functional categories of interaction, the phatic function is described as the channel characteristic of interaction in establishing, developing and maintaining social contact. In Barr’s The Human Animal ([46]), the contextualised nature of phatic communion is discussed; a surprisingly large part of every culture is merely the phatic sharing of a common emotional burden which has no relevance at all to the outside world. Scollon’s machine metaphor for human communication ([47]) considers communication as a generative mechanism, in which the machine must be ‘humming’ if we are not to think it has broken down. Indeed, phatic communion is humming in his analogy.

On reflection, it can be seen that the traditional, Malinowski ‘small talk’ perspective and Laver’s functional, pro-social perspective are not two opposing theories, since each theory is formulated by theorists addressing different ranges of interactional situations and contexts. Perhaps the phaticity of utterances is a matter of personal, contextual, and cultural definition, and there are no generally relevant abstract criteria for defining forms of talk as phatic or otherwise. The most significant nature of phatic communion is its human embeddedness.

3.2. Phatic communion as a phatic technology

We suggest that phatic communion as understood by Malinowski ([32]) may be considered as a significant phatic technology.

It is clear that at its inception in the academic research field of linguistics, phatic communion was perceived as a tool, which qualifies it to be considered as a technology. Following extensive research and recognition of its functionality, phatic communion has been systematised and incorporated into various human and computer interactional systems (e.g., [47–53,39,3] etc.). Following such systematisation and incorporation, phatic communion has become a culture among its user groups. Of course, there may always be disparity between the actual developmental process of a technology and individuals’ perceptions of it.

Phatic communion may enter human lives as a technological tool, become a culture, and in due course win academic recognition as a communicative system serving various social functions, oiling the wheels of social relations. For instance, ‘How are you?’ as a typical phrase of phatic communion has been researched extensively (e.g., [44,54–56], etc.). There is no doubt that the phaticity of this phrase has been deeply embedded in our daily lives and acquired various interactional functions that are relevant to almost all contexts of human interchange. The most inherent functional goal of the phrase ‘How are you?’ – to inquire upon the state of the asked – has been treated as

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12 Individuals tend not to use phatic communion in transactional settings, therefore, when it is used in such settings, it is indexical and uncertainty-reducing.

13 The six functional categories of interaction are: (i) referential; (ii) emotive; (iii) cognitive; (iv) metalinguistic; (v) poetic; and (vi) phatic.
required to inquire upon someone else’s welfare by asking ‘How are you?’ But how many of us want or expect to hear anything other than ‘I am fine, thank you’? Children are taught that the Standard English response to ‘How are you?’ is ‘I am fine, thank you’. Obviously, once upon a time ‘How are you?’ was used really to find out how the asked was, and this original and inherent function of the phrase does still exist. Thus although a tool may reach a state of social embedment that is recognised and applicable in various technological and social contexts, it does not stop functioning as a tool.

Moreover, like all phatic technologies, phatic communion is clearly highly variable across cultures [57]. For example, the ancient Spartans gave rise to the adjective ‘laconic’ through their proclivity for penetrating, concise speech (Plutarch Life of Lykourgos 19; Sparta is located in Laconia), and Basso’s [58] research has shown that in some modern communities too, such as the Paliyans of south India, very verbal, communicative persons are regarded as abnormal, even offensive. Quaker communicative ideologies imply that language may be viewed as inadequate for ‘true’ communication, predisposing the avoidance of routine, face-respecting, honorific, and otherwise phatic resources [59,60]. Even within the same communal context, phatic communion as a culture may be perceived differently by individuals of various genders, and from various educational, social backgrounds and personalities. For example, Mills’ [50] research has shown that by the mid-16th century, ‘a gossip’ had come to refer to “a person, mostly a woman, of light and trifling character, especially one who delights in idle talk, a newsmonger, a tattler”.[14]

In short, language is a technology so phatic communion can be seen as a phatic technology. The extensive analysis of phatic communion by linguists might provide insights into other phatic technologies.

3.3. The Internet as a primary source of phatic technologies

We suggest that the Internet is an important new source of phatic technologies. The Internet is capable of unifying many communications technologies, such as Voice-over-IP (VoIP), Skype, and the telephone, thanks to the digital encoding of language through audio and video. Initially, in the 1960s, the Internet was created as a tool to mobilise research resources in the university world. Since then, the use of it and associated technologies has been increasingly integrated in various systems, especially in the business world. Now, these technologies have become an integral part of contemporary culture.

The two inextricably associated concepts of cyberspace and cyberculture exemplify the intimate integration of technology and society. On the one hand, the cyberculture is born out of the existence of the cyberspace. On the other hand, the cyberspace is not a place defined by physical and geographic boundaries – it exists only in the minds of those who are embedded in the cyberculture. Perhaps the cyberspace is the cyberculture itself. “Setting up a distinction between cyberspace and cyberculture is a false dichotomy”, thought Bell ([61], p. 8); “cyberspace is always cyberculture, in that we cannot separate cyberspace from its cultural contexts”.

Indeed, the Internet’s rapid integration into human society rests upon its strong phatic nature, which arises from one of Internet’s fundamental characteristics – the minimised time span between producers and users. In theory, this minimised time span should allow users of strong phatic technologies a very important role as co-producers. Rapid feedback from users allows the producers to adjust their productions to suit the requirements of the community of users in the particular context(s).

Non-users’ lives are increasingly affected by the social changes brought about by the Internet. For example, traditional postal services offer a reduced number of collections and deliveries per day in comparison with past practise, and communication with some suppliers of private and public products and services by modes other than online is becoming increasingly expensive, difficult or impossible.[15]

Currently, a large amount of phatic use of ICTs and CMCs is exemplified by email and forms of more advanced Internet related technologies, such as the Windows Live Messenger and Skype. Virtual communication and interaction have become a culture, especially among today’s youth, exemplified by the growth of Facebook and Twitter. More importantly, the role of the user group in developing phatic technologies and the minimised time span between producers and users are epitomised in cybercommunities such as Second Life. Second Life is a 3D Internet-based cyber-community developed by Linden Research, Inc., commonly known as Linden Lab [62]. Anyone can become a resident of Second Life by downloading a client program named Second Life Viewer, and all residents of Second Life interact with one another via self-created 3D avatars [63]. In Second Life, the users are the producers themselves. Linden Lab only creates the landscape and some core elements; everything else is made by the users [64]. New lands and social formations are added so quickly that the landscape of Second Life is changing on an hourly basis. Actually, at some point in 2005, Second Life passed an ‘event horizon’ after which it became an unknowable entity even to Linden Lab [65]. The users of Second Life have made Second Life into a user-defined world, which they are able to explore, and in which they can socialise, participate in individual and group activities, build, and trade virtual properties.

So the Internet represents an entangled union of a technology and its culture, and exemplifies this technology’s facility to create, develop and maintain social relationships.

[14] [50], p. 108. We cannot evaluate this research here; we are merely pointing out the contextualised and embedded nature of phatic communion.

[15] For example, supposedly low-cost airlines using premium-rate numbers for bookings taken by telephone or charging£20 per letter.
4. Conclusion

In this paper, we have argued that Internet technologies suggest an extension to current theories of technology. We defined a new type of technology – phatic technology\(^{16}\) – as one characterised by its social purpose, and argued that the user groups of phatic technology form actual communities that have, essentially, the status of co-producers. Phatic technology can capture the cultural dimension of Internet technologies.

Our work on this paper has grown out of in-depth studies of advanced cybercommunities, especially Second Life. At present, these cybercommunities represent the best examples of phatic technologies. It is indisputable that the user groups of Linden Lab’s technologies have sociological and structural depth (e.g., Williams’ [67] ethnographical study of the cyber-community of Activeworlds, and Wang’s [68] grounded study of the cyber-community of Second Life). Indeed, these cybercommunities are sufficiently rich to connect general sociological theories of modernity in interesting ways [68,69].

The properties evident in advanced cybercommunities that motivate the concept of phatic technology can be found in a wide range of technologies, old and new. It seems to us likely that technologies for establishing, developing and maintaining human relationships will grow in technical sophistication and sociological influence, because those symbolised by Second Life, Facebook and Twitter are in their infancy. Since the user groups of phatic technologies are communities with significant social structures one can expect a significant role for sociological research both theoretical and empirical. Such integrations seem likely to uncover new notions; cast new light on current social theory; and possibly be relevant to the commercial development of new systems.

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