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Web 2.0 – new frames for creation and knowledge acquisition?

KEY WORDS
Internet, Web 2.0, collective intelligence, folksonomy

ABSTRACT
Since its onset, the Internet has been viewed as a chance for democratization of media broadcasts and as an egalitarian source of access to knowledge and culture. It was to be an easily accessible medium, free of censorship, and some even viewed it as anarchist. The concept of Web 2.0 is based on the notion of involving users in generating, based on massive cooperation, virtual content. Users can add their materials and applications not only to their personal websites but can also co-create the content of large portals. The trend, however, reversed itself in the direction away from corporate portals to the generation of blogs and social networking sites; away from content generated from the top-down as a result of organized commercial activity and toward an on-going interactive process of mass creation and negotiation of content; away from a closed system of content management to an open structure of tags and links.

First Internet users "communicated with each other via long lines of white text on black monitors. First Internet websites did not differ much from long lines of text written on computer text editors"[1]. Today, the Internet is a true multimedia environment developed both functionally and graphically, transmitting not just text but also sound, animation, film and photography. Initially, it was created by narrow circles of techno-elites and hackers[2], it has transformed from a platform for the exchange of thought geared at creative activity with a strong sense of mission and continuing education into a mass collection of commercial products for the mass recipient, oriented at effect and profit[3].

It is imperative that we do not view the development of computers and the creation of the

[1] R. Bomba, *Netokracja, czyli bit określa świadomość*, „Kultura i Historia" 2007, No. 11.
[2] Castells distinguishes four network society cultures: 1) techno-meritocratic or techno-elites possessing technical knowledge – Internet creators and biggest beneficiaries; 2) hacker culture – with innovative approach and counter-culture flair, wanting the Internet to be a free, independent and equal place, 3) virtual-community – stemming from hacker culture and 4) enterprise culture – responsible for proliferation of the web. M. Castells, *Internet galaxy. Reflections on the Internet, business and society,* Oxford New York, 2003.
[3] M. Juza, *Elitarne i masowe formy komunikacyjnego wykorzystania Internetu*, [in:] *Re: Internet – społeczne aspekty medium. Polskie konteksty i interpretacje,* ed. Ł. Jonak and oth., Warszawa 2006, p. 43–76.

Internet as two separate phenomena, a series of events in elite research centers and innovative companies. As Lev Manovich, one of the most popular new media researchers, notes, "we should approach new media in relation to other visual cultural forms and put it in historical perspective"[4].

The Internet was created as a result of a unique combination of military strategy, advanced science, technological resourcefulness and counter-cultural innovativeness. The effect of these processes redefined almost every aspect of human existence (often in a way we are not even able to comprehend). Manovich describes it this way, "If the 'postmodernism' of the 1980s was the first, preliminary echo of this shift still to come still weak, still possible to ignore the 1990s' rapid transformation of culture into e-culture, of computers into universal culture carriers, of media into new media, demanded that we rethink our categories and models"[5].

Technology intertwines with daily life practices, both on the level of creation and the level of usage. However, as is often the case with our binary divided way of thinking, there are two sides of the spectrum regarding this new phenomenon; there are enthusiasts and skeptics, or optimists and pessimists[6]. There is the optimist line of thought, with emphasis on the opportunity to create collective intelligence (Pierre Lévy, Howard Bloom)[7] or *swarm intelligence* (Howard Rheingold)[8], a new self organized subject (Michael Hardt and Antonio Negri, also known as network Marxists)[9]. Castells writes about super strong individuals and network individualism. Techno enthusiasts obviously include people from the inside such as Bill Gates and Nicholas Negroponte. Even more moderate researchers emphasize how revolutionary the change has been as it gained a new dimension of communication, which could not have been achieved neither by print press nor by radio. The web has erased the bottomless gap between the producer and the consumer creating mass media[10].

The other side of the spectrum focuses on the danger of limiting or disappearance of social ties (John B. Thompson)[11], algorithmisation of thought and technopoly (Neil Postman)[12]. According

[4] L. Manovich, *The Language of New Media*, www.manovich.net/LNM/Manovich.pdf, p. 32 [all Internet sources cited in the article were accessed in June 2009].
[5] Ibidem.
[6] A. Giddens, *Socjologia* [*Sociology*], Warszawa 2004, p. 495; K. Krzysztofek, *Społeczeństwo w dobie internetu: refleksyjne czy algorytmiczne*, [in:] *Re: internet…*, p. 19–41.
[7] See: P. Lévy, *Collective Intelligence: Mankind`s Emerging World in Cyberspace*, Cambridge 1997 or H. Bloom, *Global Brain: The Evolution of the Mass Mind from the Big Bang to the 21st Century*, New York 2001.
[8] See: H. Rheingold, *Smart mobs: the next social revolution*, Cambridge 2002.
[9] See M. Hardt, A. Negri, *Empire*, Harvard 2000.
[10] See: Ch. Jonscher, *Wired life. Who are we in the digital age?*, London 1999, p. 213.
[11] J.B. Thompson, *The media and modernity:a social theory of the media*, Stanford 1995.
[12] N. Postman, *Amusing ourselves to Heath. Public discourse in the age of show business*, London, 2006.

to Clifford Stoll, the Internet is an enormous dump[13]. The web can also be a snare or a trap. These researchers' opinions are reflected in discussions on the role of knowledge in the age of the Internet and the inclusion of wide groups of users in the creation of content.

Since the beginning, the Internet was seen as a chance to democratize the media broadcast. It was to be an easily accessible medium, free of censorship and some even viewed it as anarchist[14]. It has also become a channel of articulation, available to all kinds of fanatics and dissenters. "With new technology, born was also the faith in the ability to gain control over symbols, self-definition and self portrayal via publicizing minority discourse, in other words, faith in semiotic democracy."[15]

Many relish the idea of a virtually anarchist medium, enabling anyone to reach anyone. It quickly became obvious that what first seemed to be democratic has become commercial, anarchy was controlled and what was easily available has transformed into a one way information broadcast created by Internet services. The web has become a place for the transmission of commercial content generated by specialized subjects for passive masses of consumentariat[16].

The Internet's basic resources were taken over by *triple players* – elite big fish who accumulated the web's three key elements – content, connection and accessibility[17]. The *gatekeepers* keep watch over technically egalitarian technology, making access to it only to the selected few.

The idyllic version of the web as a egalitarian and democratic place has one other weak point – internal inequality; the issue of *gatekeepers* or netocrats regards only those who have access to the Internet. While in North America the Internet reaches as much as 70% of the population, in Africa it is estimated at 3.6%[18]. We are dealing here with a *digital divide*, a new kind of inequality, affecting on the one hand less developed geographic regions and on the other – less educated, older and living in the countryside people[19].

However, since the beginning the Internet's democratic tendencies have always been part of it and accompanied its growth all the way up to its present form, with the triumph of Web 2.0 technology introduced in 2004. The Internet, which in its very structure promises decentralization, has become natural ground for the development of media broadcasts. It is also a place where users

[13]C. Stoll, *Silicon snake oilSecond Thoughts on the Information Highway,* Anchor Books,1996.
[14] M. Castells, *Internet....*
[15] K. Krzysztofek, *WEBski świat: mądrość tłumów sieciowych czy zbiorowe nieuctwo*, [in Polish edition Warsaw 2007 p. 14:] A. Keen, *Cult of the amateur. How today's internet is killing our culture,* Doubleday/Currency, 2007.
[16] This is what passive Internet recipients are called. A. Bard, J. Söderqvist, *Netokracja. NETOCRACY: the new power elite and life after capitalis,* Pearson Education 2002.
[17] K. Krzysztofek, *WEBski świat*..., p. 13.
[18] www.internetworldstats.com/stats1.htm.
[19] D. Batorski, K. Olechnicki, *Wprowadzenie do socjologii Internetu*, „Studia Socjologiczne" 2007, No. 3, p. 10.

can take part both in the consumption and the production of content. With time, an increasingly greater role began to be played by content created from the bottom up by everyday users. The popularity of such projects avalanched with the onset of Web 2.0 technology.

The direction of Web development reversed itself; away from commercial portals and in the direction of blogs and sites incorporating users, away from content generated from the top down as a result of organized commercial activity and toward an interactive process of massive creation and negotiation of content, and finally away from a closed system of content management and toward an open structure of tags and links. "With new technology, born was also the faith in the ability to gain control over symbols, self-definition and self portrayal via publicizing minority discourse, in other words, faith in semiotic democracy."[20]

The beginnings of the term Web 2.0 date back to 2001 when it started being used in the context of services based on content generated by users. It does not refer to terms such as World Wide Web or the Internet but to a new way of using the Web's resources, introducing interaction "between service owners and users, putting creation back in the hands of users"[21]. Web 2.0 is not just a continuation of Internet development but also a negation of Web 1.0 (Internet in the 1990s), or static Internet with clear divisions into owners and users, or service proprietors and ordinary people[22].

For some time, the term Web 2.0 was used without a precise definition. In 2004, it was properly defined and popularized by O'Reilly Media and Media Live International which organized a series of conferences on the issue. The first definition of the term was put forward by Tim O'Reilly in his article *What is Web 2.0*, "it is a business revolution in the computer world, as a result of the Internet becoming a platform or an attempt to comprehend the rules for this platform's functioning. The main rule is – create an application which will facilitate the Web so that it can gain more users"[23].

Web 2.0 is all about participation. Based on O'Reilly's article as well as other colloquial terms, created on Wikipedia was the definition of Web 2.0[24] which is worth noting despite the numerous reservations one might have about an Internet based encyclopedia. Wikipedia is, after all,

[20] K. Krzysztofek, *WEBski świat*...
[21] *Web 2.0 on* Wikipedia, http://en.wikipedia.org/wiki/Web_2.0.
[22] Ł. Bigo, *Web 2.0 – ewolucja, rewolucja czy... anarchia?!*, www.idg.pl/news/85027/Web.2.0.ewolucja.rewolucja.czy.anarchia.html.
[23] T. O'Reilly, *What is Web 2.0*, http://oreilly.com/web2/archive/what-is-web-20.html.
[24] Wikipedia was created in 2001 in English, presently it is available in 262 languages. Some headwords can be found in numerous language versions, at times they are translations of English versions but the majority are independent entries. Basing on articles in English and Polish, and comparing them to the Russian and Spanish versions, we could gain some insight into basic Web 2.0 characteristics.

a product or a child of Web 2.0.

The key factor is orientation toward the user, in use are new mechanisms which allow the co-creation of content such as blogs and social networking sites with the possibility to assess and comment on website content[25]. As O'Reilly noted, the Internet is a platform, a place for activity, the exchange of thoughts, but also fight for hegemony. This way, the sphere of freedom has been broadened, at the same time without limiting the freedom of other users. The sites are dominated by personalization and privatization.

On the one hand, present are individualization tendencies and, on the other, in the centre of interest there is still cooperation and community work. User interaction, possible via developed technology, allows people to build networks of contacts, to invite others in, to recommend various content, to send personal messages, both to individuals and to groups, to improve the functioning of discussion groups, chats and forums. "One characteristic trait is high interaction between members of communities or networking sites, hence Web 2.0 services can be called "dynamic", in contrast to traditional "static" ones without interaction."[26]

Focus on ties and interaction is very visible. Original such community portals or pioneer projects in the US were created with the intention, for instance, to help people adjust after moving to a new town/city, to help them find work, a place of living, to gain and maintain new business and personal contacts[27].

Soon after that created were thousands of portals of different kinds and of wide scope. Terms such as a collective intelligence and folksonomy[28] first began to be used, describing the fruit of the users' collective work on processing and ordering information. The latter is a neologism, created from the combination of the terms *folk* and *taxonomy*, meaning "the practice of content categorization with the use of freely chosen key words. In colloquial language, the term means a group of people spontaneously cooperating together, with the goal to organize information into categories"[29]. The 'battle' between Web 1.0 and 2.0 is about data organization and spontaneity, between expert ordering – taxonomy and social tagging – folksonomy[30].

An imperative characteristic trait of Web 2.0, aside from an advanced technological base, is

[25] "One of the first Web 2.0 marked successes was the used in Google mechanism of website assessment which did not evaluate content but the number of links created to a given search word", search word: Web 2.0 on Polish Wikipedia.
[26] Ibidem.
[27] There were also projects like tribe.net, linkedin.com or frindster.com.
[28] J. Battelle, *The search. How Google and its rivals rewrote the rules of business and transformed our culture*, New York 2006.
[29] Search word: *Folksonomia*, http://pl.wikipedia.org/wiki/Folksonomia.
[30] K. Krzysztofek, *WEBski świat...*, p. 15.

democracy. Its enthusiasts emphasize that amateurs can, in many ways, be better than professionals if only given the right platform, in this case – Web 2.0. Even if the effect of their work is, for example, Wikipedia, highly criticized by experts. Techno-enthusiasts state that the quality of information is "satisfactory enough", it does not have to be the best[31]. Earlier researchers and their servers become intermediary elements in the exchange of knowledge via the above mentioned platforms, at the same time some responsibility falls on those searching, who not only create information but also store files on their PCs. "The process is, in reality, like renaissance, the return of classic sources of initial WWW and the Internet. It is about the proliferation of the idea of co-responsibility for content and sharing knowledge."[32]

There are also critics who point to the continuity of Web development. One of them is Paul Boutin who is of the opinion that a new name for the old Web was necessary because of "Internet entrepreneurs who were late for the boom connected with Web 1.0"[33]. Russell Shaw agrees[34] stating that Web 2.0 is a military slogan. Somewhat more moderate in his assessment is Paul Graham[35] who notes that the terminology was initially meaningless but it has gained meaning since. Because of its continuous use, it established itself in the dictionary of new media, becoming an imperative reference point and a popular way of description. Largely, the Internet and Web 2.0 have become terms frequently used and in various context, if not overused, it could be argued. In the end, the majority of controversial issues were resolved, as finished was the process of social construction of meaning; both subjects became *black boxes* (according to Bruno Latour), or phrases used without thinking[36].

In addition to the term Web 2.0, created were other new terms such as *user-generated content* (UGC), *citizen science*, *civic science*, *collective knowledge* and *crowdsourcing*. *Crowdsourcing*, a term with the longest history and most commonly used, was originally introduced and promoted by Jeff Howe in 2006[37]. It quickly gained popularity among economists and became widely used in business language, similarly to the term *outsourcing*, meaning the delegation of work in business[38], this would be *outsourcing* onto the crowd[39]. Howe states, "it is the *age of the*

[31] P. Graham, *Web 2.0*, November 2005, www.paulgraham.com/web20.html.
[32] Ł. Bigo, *Web 2.0…*
[33] P. Boutin, *Web 2.0. The new Internet „boom" doesn't live up to its name,* www.slate.com/id/2138951.
[34] R. Shaw, *Web 2.0? It doesn't exist*, http://blogs.zdnet.com/ip-telephony/?p=805.
[35] P. Graham, *Web 2.0…*
[36] K. Pietrowicz, *Badanie Internetu w ujęciu konstruktywistycznym*, [in:] *Re: internet…,* p. 356; R. Sojak, *Paradoks antropologiczny. Socjologia wiedzy jako perspektywa ogólnej teorii społeczeństwa*, Wrocław 2004, p. 239.
[37] See J. Howe, *The Rise of Crowdsourcing*, www.wired.com/wired/archive/14.06/crowds.html.
[38] http://en.wikipedia.org/wiki/Crowdsourcing.
[39] *Crowdsourcing 3. – Amazon i jego Turek*, http://kultura20.blog.polityka.pl/?p=650.

crowd". Concentration on groups of users is strictly tied to Web 2.0 and the *open source* programming movement. "*Open source* movement has shown that a web of enthusiasts and computer fanatics can work just as well as top paid professionals at Microsoft or Sun Microsystems", writes Howe, and "Wikipedia has shown that this model can be used to create a widespread and surprisingly comprehensive on-line encyclopedia"[40].

A somewhat less known fact is the case of Larry Sanger, the co-creator of Wikipedia and its predecessor Nupedia, who has pulled out of the project of an Internet encyclopedia, disappointed by its functioning – low quality of data and expert criticism. First, one of its main advocates, he has become its critic, warning that democratization of information does not work[41]. He is, of course, not alone in his opinion on the essence of the Internet.

Crowdsourcing is defined as the taking up by an undefined and open collection of people of tasks that are normally carried out by a specific employee[42]. Howe states that thanks to the diversification of needs and wants, various points of view and knowledge bases, what is created and confronted are numerous proposals for solutions to problems[43], "if you get 100 people to run a 100m race and measure their average time, it will not be better than that of the fastest runner. It will be worse because it is the average time. But if get 100 people to answer a question or solve a problem, the average answer will often be as good as that of the most clever person in the group. In most cases the average gives mediocre effects but in the decision making process – often great ones. It can be said that it's like we have been programmed for collective intelligence"[44].

Howe emphasizes the economic potential of *crowdsourcing* while Douglas Rushkoff, an influential researcher of modern culture, focuses on the potential of human energy, a specific cultural phenomenon of our time[45]. Jokingly, we can say that "*crowdsourcing* is a term and we will soon find out what it means. Perhaps it can be used to describe this new phenomenon but I'm not so sure of that"[46]. From passive recipients dependent on uniform, closed narration with a 'problem – solution' structure there was a transfer into active co-creators who do not have to accept imposed rules and solutions. Now, there is a new structure, 'problem – discussion – solution'. *Open source*

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[40] J. Howe, *The Rise...*
[41] A. Keen, *Cult of the amateur...*
[42] J. Howe, *Crowdsourcing. Why the Power of the Crowd Is Driving the Future of Business,* http://crowdsourcing.typepad.com/cs/2008/06/chapter-8-the-i.html.
[43] Ibidem.
[44] J. Surowiecki, *The wisdom of crowds: Why the many are smarter than the few and how collective wisdom shapes business, economies, societies, and nations*, New York 2004, p. 11.
[45] D. Rushkoff, *What Does Crowdsourcing Really Mean?,* "Wired" December 7, 2007, www.wired.com/techbiz/M edia /news/2007/07/crowdsourcing.
[46] Ibidem.

and *crowdsourcing* can become new models for understanding and viewing the world and knowledge about it; models based on cooperation and participation. The potential lies in the method, in the mechanics of the process of knowledge production. This way, it is a simple and clear way toward an egalitarian civic society in which participation and co-operation of members encompasses nearly all parts of life.

Critics of this idyllic vision stress that *crowdsourcing* quickly started to be used by big corporations as it turned out to be a more effective system of work, somewhat similar to a competition system in which anyone can take part and the best are awarded prizes. Following, many ethical questions quickly arose regarding the phenomenon. Moreover, research shows that communities working on projects are really not as diversified as proponents of the Internet social revolution would hope. Daren C. Brabham when researching one of the first such collectively working communities found out that it was surprisingly socially cohesive. In it, dominant were well educated, middle class men. Additionally, it turned out that for many of them the main motivation for their efforts were expected profits[47]. Hence, many economists doubt whether this method is appropriate for *non-profit* projects.

On the other hand, a situation in which several thousand people working for free gets taken advantage of by large corporations is just simple exploitation[48]. Andrew Keen notices that it was involvement of users which was the strongest economic stimulus after the crash of the *dotcoms*[49]. Just like counter-culture of the 1960s saved capitalism, it is Web 2.0 that is saving it now.

Perhaps a better term, synonymous to *crowdsourcing*, would be *citizen science* or *civic science*. *Civic science* is networks of researchers and volunteers working together on research projects[50]. Often, the majority of participants in such projects are amateur researchers who do not have academic degrees or specialist skills[51].

We can talk about *collective* knowledge which, at this point, means taking *crowdsourcing* onto research fields or user communities doing the work of professional researchers. Roy Rosenzweig, the guru of digital history, writes that communities gathered around specific projects

[47] D.C. Brabham, *Moving the crowd at iStockphoto: The composition of the crowd and motivations for participation in a crowdsourcing application*, "First Monday" Vol. 13 (2008), No. 6, www.uic.edu/htbin/cgiwrap/bin/ojs/index.php/Fm article/view/2159/1969.
[48] K. Krzysztofek, *Wprowadzenie...*, p. 22.
[49] The term *dotcom* is used to mean large business projects on the Internet, especially the first wave of Internet fever between 1995–2001, which ended with the investment bubble bursting (*dot-com boom*).
[50] http://en.wikipedia.org/wiki/Citizen_science.
[51] B.V. Lewenstein, *What does citizen science accomplish?*, read at CNRS, Paris, June 8, 2004.

can become significant support for professional researchers[52] who alone cannot overcome certain research problems, it is *wisdom of the crowd* which could be a chance to overcome any shortcomings.

The concept of *collective intelligence* is an idea much older than Web 2.0. Howard Bloom writes about *the group IQ*[53], while George Pór emphasizes, "the ability of human communities to evolve in the direction of a higher level of complexity and harmony through such innovative mechanisms as diversification and integration, competition and cooperation"[54].

Web 2.0 can be characterized by dispersed knowledge. Earlier dominant was the expert model; knowledge was distributed by a narrow circle of broadcasters who also defined and shaped the broadcasting process. In this model, the broadcaster is at an advantage, he has institutional authority[55]. As Harold Innis[56] notes, every society possesses a communication system with crucial points where knowledge is amassed. Control over such points ensures control over knowledge and its proliferation, defining the social sphere of communication. There is the risk, then, of monopoly and ominous hegemony over innocent masses.

Critics of Web 2.0 look back with longing on the expert model, replaced with the model of dispersed knowledge with numerous, often anonymous broadcasters with fragmentary knowledge exchanging information and creating content.[57] What is created is *smart mobs*[58]. Pierre Levy writes about collective intelligence[59], also mentioned by Bloom[60]. James Surowiecki mentions a *wisdom of crowds*[61]. Eric S. Raymond proposes a comparison between a bazaar and a cathedral[62]. They are to represent the two models of knowledge distribution; the bazaar – a free, horizontal exchange of information, and the cathedral – distribution of information by narrow elites. Largely, it was the hacker movement which popularized this way of comparison. It should be noted that is was in this

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[52] R. Rosenzweig, D.J. Cohen, *Digital History. A Guide to Gathering, Preserving, and Presenting the Past on the Web*, Filadelfia 2005, Internet edition http://chnm.gmu.edu/digitalhistory/.
[53] H. Bloom, *Global Brain: The Evolution of Mass Mind from the Big Bang to the 21st Century*, New York 2000.
[54] G. Pór, T. Atlee, *Collective Intelligence as a Field of Multi-disciplinary Study and Practice*, www.evolutionarynexus.org/node/606.
[55] N. Negroponte, *Being Digital*, New York, 1996.
[56] H. Innis, *The Bias of Communication*, Toronto 1991; cited from: M. Juza, *Wiedza ekspercka a mądrość zbiorowa w komunikacji internetowej*, „Studia Socjologiczne" 2007, No. 3, p. 39.
[57] M. Juza, *Wiedza ekspercka…*, p. 37.
[58] The term *smart mobs* is considered to be created by H. Rheingold., *Smart Mobs. The Next Social Revolution. Transforming Cultures and Communities in the Age of Instant Access*, Cambridge 2002.
[59] P. Lévy, *Collective Intelligence: Mankind's Emerging World in Cyberspace*, Harmondsworth 2000.
[60] Bloom sees collective intelligence as a beyond individual process of amassing knowledge, also taking place in primitive organisms such as termites. H. Bloom, *Global Brain...*
[61] J. Surowiecki, *The wisdom...*
[62] E.P. Raymond, *The Cathedral & the Bazaar. Musings on Linux and Open Source by an Accidental Revolutionary*, Sebastopol, CA 2001, for Polish translation: www.linuxcommunity.pl/node/4.

environment where collective creation of solutions turned out to be most effective[63].

Some authors refer to *New Age* movements, emphasizing certain independence of collective intelligence from various individuals and its potential in the achievement of higher levels of knowledge. Kerckhove, writing about open intelligence, defines it as the meeting of minds leading to the creation of noospshere, a network of collective intelligence worldwide[64]. Similarly, in a way, we can understand the described by John Battelle[65] *clickstream* – an algorithm which arranges keywords in a search engine according to the number of individual user clicks on them. It is a system of sorting information based on the preferences of millions of users. This way, sites most often chosen after a search word or phrase is typed into a search engine appear first on the list of recommended sites, or in other words, are considered to be the most competent. The Google algorithm proves wisdom of crowd authoritarianism.

Digital enthusiasts hope that one day, as a result of the amount of digital information produced every day by millions of users, created will be a complete digital view of the world, a so far unfulfilled dream of humanity. One vision of digital future is for everything ever produced to be saved, which is another unfulfilled dream of humanity, a complete archive, a map in the scale of 1 : 1[66].

The analogue era was a time of the so called big head culture, amassing in one place most symbolic resources. In the digital era, culture is to gain the so called long tail. It is a theory by Chris Anderson, the chief editor of "Wired" monthly, who, according to Pareto's principle[67] applied in the production of culture goods, states that together with the development of the Internet the tail of culture elongates, together with increasing input by independent or niche authors[68].

The debate on opportunities and threats of the Internet is not something new. In 1994, a literary critic Sven Birkerts writing for "Wired" was trying to convince users to reject this electronic medium. He warned that new media are a serious threat to the search for wisdom and depth of knowledge, for which people have been fighting for thousands of years[69]. Prophetic tone and reference to highest of values such as knowledge, wisdom of cognition and collective subjects such as humanity, society or nation, will be typical for upcoming critical discourse.

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[63] M. Juza, *Wiedza ekspercka…*, p. 44.
[64] D. de Kerckhove, *Connected inteligence. The arrival of the Web society*, Toronto 1997.
[65] J. Battelle, *The search*...
[66] J.L. Borges, *On Exactitude in Science*, [in:] *A Universal History of Infamy*, London, 1975.
[67] V. Pareto notices that 80% of wealth in Italy belongs to 20% of citizens, since then this statistical dependency is also used to illustrate numerous social and nature phenomena.
[68] K. Krzysztofek, *WEBski świat…*
[69] R. Rosenzweig, D.J. Cohen, *Digital History*...

Some arguments regard the dangers related to Web 2.0 democratic and egalitarian potential, and mostly the lack of clear and verifiable distinction between truth and fallacy, between the important and the trivial. Gertrude Himmelfarb, a conservative critic of new media, provides an extreme example which will soon, according to her, become fact. She's of the opinion that in several years time a comic book will be able to gain the same status as the Bible. She prophets, "in the future what will see will be wired remains of our great democratic system of higher education and we will be wondering how on Earth did we manage to lose it all"[70]. She also called together a group of neo-luddites in order to fight 21st century machines. David Noble, a historian from an opposing to Himmelfarb Marxist faction, surprisingly took her side, also warning against threats to education from new media[71].

The idea of democratically oriented, conscious and willing to cooperate users creating the foundations for an egalitarian civic society does not convince everyone. Keen describes them as "a swarm of dilettantes, instead of crowd wisdom there is collective ignorance and theft, network mob, a caricature of democracy, transforming it into paido- and ochlocracy, the rule of juveniles and mob"[72]. He reminds us of Thomas Henry Huxley's theorem of an infinite number of monkeys with an infinite number of typewriters in an infinite amount of time writing a literary masterpiece. According to Keen, with the onset of the Internet and its popularization, we are dealing with a similar situation with only one small difference – typewriters are computers now and instead of monkeys there are Web users. "In this age, technology connects all these monkeys to all typewriters"[73] – that is Web 2.0. We can say that Keen has an aristocratic approach to the masses, however, no different were earlier criticisms of mass societies. If we talk about digital commoners or digital masses, then analogies to Gustave Le Bon, José Ortega y Gasset or representatives of the Frankfurt school of thought (especially Adorno) come to mind.

In reality, digital collections, described by critics as shallow and less useful than traditional archives, can be susceptible to the problem of low quality. What they lack are supervisors, strict guidelines and criteria. They are simply of different character. They can be, on the other hand, much bigger, more differentiated and egalitarian than the traditional[74]. Unsatisfactory quality is not their

[70] G.. Himmelfarb, *A Neo-Luddite Reflects on the Internet*, "Chronicle of Higher Education" Vol. 63 (1996), No. 10, A56.
[71] Essay was written in mid 1990s, D. Noble, *Digital Diploma Mills: The Automation of Higher Education*, New York 2001.
[72] K. Krzysztofek, *WEBski świat…,* p. 16.
[73] A. Keen, *Cult of the amateur...*
[74] D.J. Cohen, *The Future of Preserving the Past*, "The Journal of Heritage Stewardship" Vol. 2 (2005), Iss. 2, p. 6–19, http://chnm.gmu.edu/resources/essays/d/39.

constructive trait but a constant threat, an inevitable cost resulting from opening resources and inviting non-professionals to co-create.

The Internet should be defined not via nouns such as Internet website, sub-site, tag or link but via verbs such as searching, ordering and communicating. An accurate way of defining a phenomenon is the first step to understanding it. The Internet is not a medium transmitting content from scientists to the interested public (according to the model of one way *top-bottom* communication) but is part of a network serving "pendulum communication between and among people"[75] via return, dispersed and diversified information.

This is where the greatest potential and hope of the Web is. Even though we need not forget about its limited accessibility to various social groups and regions of the world, its democratic potential is incomparable to any other broadcasting medium. "The Internet is a medium of the people; the good, the bad and the ugly."[76]

[75] Idem, *History and the Second Decade of the Web*, "Rethinking History" Vol. 8 (2004), No. 2.
[76] B. Kahle, *Go Wayback*, "International Herald Tribune" March 4, 2002, www.iht.com/articles/2002/03/04/itend04_ed3_.php.