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Abstract

This paper explores the philosophical background of one of the most widespread Web based sources used in contemporary education – Wikipedia. Theoretical part consists of the basic notions of anarchist philosophy of education such as human nature, work and society. Through Chomsky's prism of visions and goals, it provides the frame for further analysis. The practical part shows that Wikipedia creates a virtual anarchist society: open, ludic engagement in this society is fully interwoven with the specific kind of education of all its members. Visions of Wikipedia education are liberty, equality, and fraternity, really useful knowledge and humanity; its goals are urgency and radical change, free association, autonomous action, cooperation and mutual aid and combining activism and education. Offering an insight into the often neglected area of social and political ideas underlying the use of technology in education, this paper offers a conceptual bridge between contemporary Digital Immigrant educators and their predominantly Digital Native patrons, thus contributing to the better understanding of education in and for the third millennium.

Preface

Anarchism really constitutes a folk or people's social philosophy and practice in the richest sense of the term, just as the folk song constitutes the emotional expression of a people in their aesthetic or spiritual depths.

Murray Bookchin (1980)

During the almost half-year long research process, my ideas were challenged by numerous people within both anarchist and academic circles. Anarchists were usually delighted by the very thought that someone wants to study "their" ideas in education; more reserved academics often warned about taking a critical distance from anarchist conclusions. The most common question I have been asked throughout those discussions was not concerned with the content, but with my personal relationship towards the content. Presented in various forms, those inquiries can be subsumed in a simple question: *Are you really being serious?*

Hovering from one extreme to other, I understood that I couldn't give a clear, straightforward answer. I certainly enjoyed the research process in a ludic, playful way; on the other hand, I do believe that the topic has the potential for very serious results. Finally, working on the paragraph about anarchist attitudes to work, I found inspiration in Bob Black's famous book *The Abolition of Work and Other Essays*: "I'm joking *and* serious. To be ludic is not to be ludicrous. Play doesn't have to be frivolous, although frivolity isn't triviality: very often we ought to take frivolity seriously" (1985).

The inspiration for this paper arose from playing with old, often half-forgotten or simply neglected anarchist ideas about education in the context of the cutting edge technology used on a daily basis. Showing a high level of resemblance between those ideas and the everyday *praxis* of students, such play suddenly turns into the very important educational issue: understanding between members of seemingly different paradigms (Kuhn, 1970) – Digital Immigrants and Digital Natives (Prensky, 2001 p.1) – who, at the present state of affairs, happen to be contemporary educators and their patrons. The abundance of anarchist ideas contained in one of the most widespread educational technologies strongly conforms to Bookchin's comparison with folk songs. Showing their omnipresence in the everyday life of students, this research creates the conceptual bridge between past and present thus helping educators gain a deeper understanding of education in the third millennium.

Before the beginning of the paper, I would like to make an important technical remark. A significant number of sources used in this paper are considerably old and/or inaccessible in standard libraries. In order to overcome this problem, anarchist organizations throughout the world maintain online libraries with such additions. According to the law, texts older than 50 (in some countries 70) years are not subject to copyright: the majority of those sources, such as Goldman's, Bakunin's and Kropotkin's books, essays and pamphlets can be found in full online transcripts. Following their political convictions, the majority of recent anarchists such as Black, Bay and Bookchin give up copyright: for this reason, many of their works are available on the Internet free of charge. Standard academic sources such as books, pamphlets, essays and journal articles have been consistently used in the paper. However, a considerably large number of references was retrieved from various Internet libraries. Page numbering in online texts often does not correspond to the original paperback edition or does not exist at all: in such cases, page reference was omitted.

Introduction

Technologies bring changes. They are ubiquitous and unavoidable: people get so accustomed to their presence that many a consequent impact, such as for instance the use of mobile phones on public transport, quickly becomes standard behaviour. Studying the advent of mass media in mid-twentieth century, McLuhan noticed that "we shape our tools and thereafter they shape us" (1964); technologies and human beings dialectically interact in the process of creating our reality. Generally, a tool is something that was produced before its user was born; technology is something that came after. When applied to information and communication technologies, this distinction creates large differences between two vast groups of users: according to Prensky's famous article, they are named Digital Natives and Digital Immigrants. Digital Natives are people who were born into the digital world; Digital Immigrants are people who got accustomed to the digital world in later parts of their lives. For this reason, continues Prensky, "today's students think and process information fundamentally differently from their predecessors. These differences go far further and deeper than most educators suspect or realize" (2001 p.1).

Already for Plato, education is based on language. Children should be exposed to carefully chosen stories, and "the first skills they ought to learn are reading and writing" (Plato, 1966). Following this thought, Prensky finds that the "single biggest problem facing education today is that our Digital Immigrant instructors, who speak an outdated language (that of the pre-digital age), are struggling to teach a population that speaks an entirely new language" (2001 p.2). Applying the constructivist approach, Vygotsky asserts that "the relation of thought to word is not a thing but a process, a continual movement back and forth from word to thought… Thought is not merely expressed in words; it comes into existence with them" (Vygotsky, 1962 p.125). The extensive use of technologies brings not only new jargon into the everyday life of its users, but also the philosophy and ethics they are built on. Everyday use of cars is under-lined by the belief that it is correct to burn fossil fuels in order to come from home to the workplace; the use of mobile phones is under-lined by the belief that unrestricted communication from all places and at all times is essentially good for the communicator; the use of the Internet is under-lined by the belief into freedom of information. In order to understand their patrons, Digital Immigrant instructors have to learn not only the literal meanings of expressions from Digital Natives' language. It is as important to reveal

associated concepts, beliefs and values: applying Kuhn's terminology, they have to understand a whole new paradigm (1970).

One of the most widely used ICT-based tools in education is the "multilingual, web-based, free content encyclopaedia project" Wikipedia (2007a). There is hardly a teacher who hasn't dealt with students who extensively use Wikipedia as a source in their work: "students, particularly in the 'first world', are increasingly using Wikipedia as a source of information" (Szesnat, 2006 p.1). There is a small but rapidly growing body of research about its educational use. This can be roughly divided in two categories: research about the use of the Wikipedia knowledge database in instruction, and using Wikipedia as a tool for instruction. This study takes another approach to Wikipedia studies. Instead of looking at how Wikipedia can be used in instruction, it focuses on the philosophy built in its functioning. Inspired by similarities between the basic postulates of Wikipedia and anarchism and supported by Reagle's article showing the high degree of similarity between Kropotkin's idea of "mutual aid and interdependent decision making within the Wikipedia" (2005), it seeks for model in the philosophy of anarchism.

Albeit a bit poetic, Bookchin's description of anarchism makes an excellent insight into its complexities. Addressing problems connected with analyses of anarchist views in the context of education, De Leon writes that "anarchist theory is a huge field and is not easily summarized, as there have been historical variants that are quite diverse and eclectic" (2006). In a similar fashion, Suissa says that anarchism is inherently "anti-canonical, so one cannot refer to any single body of written work in the search for definition" (2001 p.629). For those reasons, it is of outmost importance for this research to create a working definition of anarchist education. This paper follows the most usual approach: isolating attitudes common to the most prominent anarchist thinkers, it looks for a "middle way" which satisfies the majority. Following the method from De Leon's successful comparison between anarchist and critical education, "when I refer to the concept of 'anarchism,' I am actually referring to 'anarchisms' which better captures this diverse radical theoretical tradition" (2006).

The first chapter defines relevant concepts in anarchist philosophy of education. Following some of the most important anarchist thinkers such as Bakunin, Guerin and Chomsky, it starts with a discussion of anarchist views of human nature. In order to understand why and how people engage in Wikipedia, it goes on to discuss anarchist views

about work; in order to prepare the analysis of social interactions in large Wikipedia community, it concludes with a discussion about the structure of anarchist society.

Proceeding from theoretical issues to educational *praxis,* the second chapter consists of an in-depth analysis of anarchist education through Chomsky's prism of visions and goals. It defines three visions and five goals of anarchist education; each is elaborated in a way which allows easy application to the case of Wikipedia. It concludes with the short argument about several liberal critiques and anarchist responses; rather than looking for "winners" and "losers", it is aimed as a tool for clarifying distinctions between those theories.

The third chapter starts with Bookchin's and Zerzan's opposing views about anarchism and technology. It continues with a brief description of Wikipedia, and places it in the context of anarchism. Comparing the engagement in Wikipedia with academic essay writing, it asserts that any act of contribution to Wikipedia is essentially educational; moreover, it shows that such education shares anarchist visions and goals. The adjoining discussion shows that Wikipedia is based on anarchist views of human nature; that engagement in Wikipedia essentially corresponds to the anarchist concept of work; and that the community of Wikipedia users builds an essentially anarchist, albeit virtual, society. When applied to cyberspace, the discussion decides in favour of Bookchin's belief that technology is no obstacle for achieving anarchist society; however, it warns about the problems and restrictions of transferring such structures to the real world.

One of the rare generally accepted educational paradigms is that education has to be relevant. Whether one chooses to share Bookchin's faith in or Zerzan's repugnance for technologies, or any standpoint in between, their impacts have to be studied in order to keep up with current social reality. Thus the question is not whether to use Wikipedia in education, for it is being extensively used anyway; what matters is which possibilities Wikipedia can offer to contemporary education and what are the consequences of its fast spreading to all levels of the society.

Chapter 1: Anarchist philosophy of education

Human nature

The vast majority of anarchist thinkers points out that any discussion about anarchism and anarchist educational *praxis* "must rest on some conception of human nature, of what's good for people, of their needs and rights, of the aspects of their nature that should be nurtured, encouraged and permitted to flourish for their benefit and that of others" (Chomsky, 1996 p.107). Certainly, obtaining a full account of anarchist views of human nature is an extremely hard, if not an impossible enterprise; it is not less important that

> the concept of human nature is inherently problematic and relying on it in philosophical discussions can have undesirable implications due to its tendency to assume an ahistorical position and to deny the cultural embeddedness of human experience and character (Suissa, 2006 p.25).

Despite those restrictions, Suissa continues, the importance of understanding anarchist views of human nature in the context of contemporary education lies in the methodological role it plays within the anarchist philosophical position. Traditionally, philosophers have used the concept of human nature for three purposes:

1. To identify or demarcate human beings;
2. To explain human behaviour;
3. To prescribe how human beings should live and conduct themselves (Parekh, 1997).

Based on the work of dialectical thinkers from Heraclitus onwards, Bookchin develops the dialectical approach to acknowledging the developmental nature of human reality. "Dialectical reason grasps not only how an entity is organized at a particular moment but how it is organized to go beyond that level of development and become other than what it is, even as it retains its identity." (1995 p.3) The contradictory nature of identity, for Bookchin, is an intrinsic feature of the human being; its flourishing, rather than disciplining, is therefore one of the highest values in anarchist education.

> Let us not fear to say that we want men capable of evolving without stopping, capable of destroying and renewing their environments without cessation, of renewing themselves also; men, whose intellectual independence will be their greatest force, who will attach themselves to nothing, always ready to accept what is best, happy in the triumph of new ideas, aspiring to live multiple lives in one life. (Ferrer, 1909 in Goldman, 1969)

The developmental nature of human reality makes people inherently interconnected; as Bakunin said, "man is born into society, just as an ant is born into an ant-hill or a bee into its hive (…) Man does not choose society; on the contrary, he is the product of the latter, and he is just as inevitably subjected to natural laws governing his necessary development as to all other natural laws he must obey" (Bakunin, 1964 p.157). Thus, for anarchists, there is no strict distinction between human beings and society. It is therefore natural that

> in anarchist theory, where the central animating ideal is the one of free society, based on mutual cooperation, decentralisation and self-government, the concept of a common human nature is employed in order to demonstrate the feasibility of this social ideal (Suissa, 2006 p.25).

Before the First International, during the period of the fastest development of anarchist ideas often referred to as the golden age of anarchism, all major leftist political theories were strongly influenced by Darwin's theory of evolution. However, unlike Huxley or Marx who understood evolution quite literally as survival of the strongest, Kropotkin, incensed by Huxley's view about evolution as "thirsting… for blood" (in Gibson, 1990 p.365), insisted that the main prerequisite for survival of society is mutual aid between the individuals. In his famous pamphlet, meaningfully entitled *Mutual Aid – A Factor of Evolution*, Kropotkin argued that "the fittest are not the physically strongest, nor the cunningest, but those who learn to combine so as mutually to support each other, strong and weak alike, for the welfare of the community" (1902 p.7). In one form or another, Kropotkin's view became the credo of left-wing anarchism. Its is equally important for the individual human being and for anarchist "critique of the liberal theory of the state, according to which the state is necessary because people, being rational, will not voluntarily cooperate to provide themselves with public goods, in particular the basic public goods of social order and defence" (Taylor, 1987 p.ix). Exercised on all levels, the principle of mutual aid is the basic prerequisite for philosophy of anarchism.

The question whether human nature is more individual or social is still one of the main issues in anarchism. There is a whole spectrum of answers, from Bakunin's aforementioned belief that people are no more than the product of the society to Stirner's declaration of "conscious egoism" in his famous manifesto of anarchist individualism entitled *The Ego and His Own* (1907 p.217). The majority of anarchist theorists of education are usually considered to be on the social side of this spectrum. However, as Guerin warns, "one cannot conceive a

libertarian who is not an individualist" (Guerin, 1970 p.27); the differences between individualist and social anarchist philosophies of education should therefore be understood as mere inclinations towards a side of individualist-socialist spectrum rather than fully distinct theories.

Based on such views about human nature, anarchism fails to answer the third of Parekh's demands about prescribing how human beings should live and conduct themselves; this principle is contained even in its very name. According to Kropotkin's famous definition written for Encyclopaedia Britannica, anarchism is "the name given to a principle or theory of life and conduct under which society is conceived without government" (1910). Thus, the failure to provide a detailed account of anarchist organization is a deliberate decision based on the belief that any kind of organization has to be built from the within.

> When once free from the restrictions of extraneous authority, men will enter into free relations; spontaneous organizations will spring up in all parts of the world, and every one will contribute to his and the common welfare as much labour as he or she is capable of, and consume according to their needs. (Goldman and Most, 1896 p.2)

Contrary to the common interpretations, anarchists do not call for chaos: instead, they offer a different kind of organization based on a sincere belief that mutual aid is the basic element of human nature.

Work

Human beings spend the major part of their lives engaging in "the activities and labour necessary for the survival of society" (Encyclopaedia Britannica, 2007); in other words, the largest part of our waking time is spent in work. According to Debord the concept of work, inherently interconnected with the concept of time, radically differs between primitive or "natural" and modern or "technological" societies. "The social appropriation of time and the production of man by means of human labour were developments that awaited the advent of a society divided into classes." (1994 p.93) The ancient human being understood the day in terms of light and dark, the year in terms of seedtime or harvest, the historic events in terms of generations. As opposed to such a natural understanding of time, "modern, Western man lives in a world which runs according to the mechanical and mathematical symbols of clock time. The clock dictates his movements and inhibits his actions". Such constriction of our everyday activities represents no less than "the tyranny of the clock" (Woodcock, 1997 p.53); as the

main tool of controlling the workers, Woodcock's clock becomes a metaphor for class exploitation. Under such conditions, work becomes "production enforced by economic or political means, by the carrot or the stick" (Black, 1985); it is motivated extrinsically, thus it returns only extrinsic satisfaction.

Anarchists believe in organization free from the restrictions of extraneous authority; thus work, together with all other human activities, has to be voluntary. For Black, it is hard to conceive that any free person would voluntarily engage in an unpleasant or intrinsically unrewarding activity – hence, for an anarchist, the main reason to work is the pleasure obtained. Unfortunately, as Woodcock notes, the Western concept of work is far from the ideal pleasure producing activity: "quantity rather than quality becoming the criterion, the enjoyment is taken out of the work itself" (1997 p.56). Depending on minor differences between working classes, this lack of enjoyment leads to more or less subtle coercion; in the present social order, the real choice about whether to work is left only to members of the small portion of the society who can afford it. This problem affects the individual worker just as much as the whole society: when expressed in terms of work, a truly free society is defined "as one in which there is no social coercion compelling the individual to work" (Gibson, 1997 p.110).

Apart from social relationships, coercion to work deeply affects the possibilities for individual human development. According to Bertrand Russell, this phenomenon is as old as humankind. Throughout written history, the majority of people belonged to the working class; only a small percentage of those who were rich enough belonged to the privileged leisure class. Despite the huge discrepancy in numbers, it was the leisure class that

> cultivated the arts and discovered the sciences; it wrote the books, invented the philosophies, and refined social relations. Even the liberation of the oppressed has usually been inaugurated from above. Without a leisure class, mankind would never emerge from barbarism (Russell, 1997 p.33).

Even in the most advanced democracies, it is extremely hard for the working class to progress into the leisure class. Thus the myth of full employment, advocated by modern capitalism, "is the slogan of wage-slaves in an unfree society" (Richards, 1997 p.158); in the more moderate words of a non-anarchist, it is obviously one of the main means of social and cultural reproduction (Bourdieu and Passeron, 1994 p.41).

Anarchist understanding of work is often complex and ambiguous; therefore, the discussion would certainly highly benefit from conceptual analysis. According to Morris, "there are two kinds of work – one good, the other bad; one not far removed from a blessing, a lightening of life; the other a mere curse, a burden to life" (1997 p.36). The first kind of work is highly desirable; moreover, it is the only viable base of the truly free society. The latter is inhumane, coercive, aggressive; it is the negation of pleasure, human nature and freedom itself. Anarchists therefore don't call for abolition of all kinds of work. On the contrary, they call for "creating a new way of life based on play; in other words, a *ludic* conviviality, commensality, and maybe even art" (Black, 1985). The anarchist concept of work is of the outmost importance for education. The principle of voluntary engagement in pleasure-producing activities leads to anarchist resistance to compulsory schooling and provides a unique approach to curriculum design, school organization and other educational issues to be explored in detail in the following chapters.

Clarification of the anarchist understanding of work continues with Russell's definition: "work is of two kinds: first, altering the position of matter at or near the earth's surface relatively to other such matter; secondly, telling other people to do so" (1997 p.25). This, almost a century old mechanical distinction sounds more appropriate for a comedy line than for an academic paper; however, its simplicity perfectly reflects the basic differences between the notions of manual and intellectual work. Based on their views about human nature, anarchists principally reject such divisions.

> We are convinced that in a living and integral man each of these activities – muscular and nervous – should be equally developed, and that, far from harming each other, those two activities are bound to support, enlarge, and reinforce each other. (Bakunin, 1964 p.329)

Rejecting the distinction between mind and matter and theory and practice built in the very basis of Western philosophy, modern anarchists accept Marxist integral notion of *praxis*. According to Vranicki, "the concept of practice shows its three essential sides: the sensuous-concrete, the theoretical-abstract, and the emotional-experiencing" (1965 p.41). The base for educational *praxis* is the acknowledgement of both practical and intellectual aspects of human beings. Human beings are inherently social; thus, only an egalitarian, all-round education can create equal work opportunities and consequently an egalitarian society. Considering its long-

term effects and strong social influence, the prerequisite for educational *praxis* is a curriculum based on the aforementioned principles. Hence for anarchists, the long lasting liberal debate between vocationalism and education is meaningless. Such views are best summed up with Bakunin's widely accepted term "integral education" (1964, p.327).

The validity of those conclusions generally accepted by anarchists (Avrich, 1980 pp.350-351) is often questioned in the light of the demand for high levels of specialisation in contemporary, technology-based society. Studying the examples of very complex professions such as surgery, pharmacy or physics, their critics are sceptical about the practical consequences of anarchist stances. Such critiques are based on two main assumptions: that integral education would provide general knowledge inadequate for highly skilled professions such as for instance surgery, and that human nature, which naturally repels engagement in extrinsically unmotivated work, would lead to serious crisis in "harder" occupations (Bernieri, 1997 pp.72-76). Addressing the first assumption, Bakunin is aware that introducing integral education would probably temporarily reduce the development of science. However, he continues, this is just a temporary phase leading to the great upheaval based on enlarging the population of scientists. "What science loses in sublime loftiness, will it not regain by broadening its base?" (Bakunin, 1964 p.329) The second assumption is being rejected by anarchist ideas of human nature and "good work" (Morris, 1997 p.36). For Bernieri, "work is a physical need for both muscles and intellect" (1997, p.77); in an anarchist society, it is a ludic, spontaneous and pleasurable activity (Black, 1985). Thus extrinsic motivation, or its lack thereof, isn't an important factor for an anarchist: for the same reason as one individual wants to do art, another will want to do surgery.

Probably the most questioned consequence of the abolition of divisions between white-collar and blue-collar professions and between vocational training and education can be summed up in the ever-recurring question: *Who will do the dirty work?* "Many anarchists oscillate between 'the right to idleness' and 'compulsory work for all', unable to conceive an intermediate formula." (Bernieri, 1997 p.74) It is important to notice that even the "compulsory work for all" theories are restricted to the members of a certain society; according to anarchists, each free individual can either choose to voluntarily join the society, enjoy its benefits and share the responsibilities or he or she can simply decide to stand aside. In this view, joining the society means accepting a kind of Hobbesian social contract (2002) exercised on individual basis. Anarchist ideas about work are feasible only upon accepting

Bernieri's idea that work is a physical need of each human being. "Either the individual must be free to go to work or stay away, and Society can lump it, or Society must preserve its coercive machinery, the State. Anarchism is based on the recognition of the fact that, in freedom, men will choose to work." (Gibson, 1997 p.114)

Anarchist society

For anarchists, the concept of education takes a central part not only in the quest for personal freedom but also for achieving a free, equal, just, anarchist society. Based on his view that human development strongly depends on social circumstances, Bakunin asserts that complex ideas such as ethics, morality, freedom and even self-identity are not innate to human beings; on the contrary, they are transmitted to individuals through social traditions and education.

> Good or bad, education is imposed upon man – and he is in no way responsible for it. It shapes him, in so far as his individual nature allows, in its own image, so that a man thinks, feels and desires whatever the people around him feel, think and desire. (1964 p.153)

Thus, the inverse of the initial statement is as valid as the original. Anarchist education can exist only in a truly egalitarian society, while any other kind of organization inevitably leads to social and cultural reproduction. As Stirner said, "education creates superiority and makes one a master: thus in that age of the master, it is a *means to power*" (1984 p.13). Anarchist understanding of the relationship between education and society recalls the chicken and the egg problem. For Aristotle, "there could not have been a first egg to give a beginning to birds, or there should have been a first bird which gave a beginning to eggs; for a bird comes from an egg" (1956); in plain language, it is impossible to conceive of anarchist education in a non-anarchist society and *vice versa*.

The logical consequence of anarchist attitudes to organization is the impossibility of describing a perfect anarchist society. "A fundamental aspect of the anarchist position is the belief that the exact form of future society can never be determined in advance as it involves a constant, dynamic process of self-improvement, spontaneous organisation and free experimentation." (Suissa, 2001 p.631) Before considering how, in fact, anarchist society should be organized, anarchists have developed extensive criticisms of how society is organized at the present. Probably the only expression that any anarchist would immediately

subscribe to is "the horror of the state" (Guerin, 1970, p.14). Therefore, the first question that needs to be answered is: *What, according to anarchists, is wrong with the state?*

In order to answer to this question, it is first necessary to define the anarchist understanding of the state. According to Marshall, "anarchists make a clear distinction between society and the state. While they value society as a sum of voluntary associations, they reject the State as a particular body intended to maintain a compulsory scheme of legal order" (1993, p.12). Malatesta defined the state as

> the sum total of political, legislative, judiciary, military and financial institutions through which the management of their affairs, the control over their personal behaviour, the responsibility for their personal safety, are taken away from people and entrusted to others who, by usurpation or delegation, are vested with the powers to make laws for everything and everybody, and to oblige people to serve them, if need be, by the use of collective force (Malatesta, 1891 in Marshall, 1993 pp.20-21).

The main anarchist criticism of the state lies in the restrictions it imposes on individual freedoms. They are rooted in the historic division of people into two main groups, recognised under various names such as the rich and the poor, or the oppressors and the oppressed, or the masters and the slaves. For anarchists, this distinction is the main obstacle to achieving both personal freedom and egalitarian society.

> All men are equal and free: society by nature, and destination, is therefore autonomous and ungovernable. If the sphere of activity of each citizen is determined by the natural division of work and by the choice he makes of a profession, if the social functions are combined in such a way as to produce a harmonious effect, order results from the free activity of all men; there is no government. Whoever puts a hand on me to govern me is an usurper and a tyrant; I declare him my enemy. (Proudhon, 2003)

The current social order can be drastically changed by abrupt measures or revolution, and slower, developmental measures or evolution. However, since the First International, even the strongest advocates of revolutionary measures strongly refuse the Marxist/Leninist notion of educationally unprepared revolution which inevitably leads to an intermediate revolutionary government. "The notion of a will to power establishes itself as a central plank in the anarchist conception of human nature." (Morland, 1997 p.13) For this reason, concludes Kropotkin, every revolutionary government "would be content with a simple plastering up of present institutions, provided that they would secure power for themselves… They only go against the governors of the present time in order to take places" (1970 p.239). Anarchists

reject violent, fast, unprepared revolutions such as the French or Bolshevik Revolutions; "they taught them, should they ever need to know, how *not* to make a revolution" (Guerin, 1970 p.83). Based on these assumptions, conclude anarchists, "the establishment and the progressive improvement of a society of free men can only be the result of a free evolution; our task as anarchists is precisely to defend and secure the evolution's freedom" (Malatesta, 1922).

Chapter 2: Visions and goals of anarchist education

In order to apply philosophical inquiries to the *praxis* of anarchist education, theory has to be comprised into a useful, widely applicable framework. Containing both practical and theoretical elements, Chomsky's distinction between visions and goals makes an excellent starting point for inquiry:

> By visions, I mean the conception of a future society that animates what we actually do, a society in which a decent human being might want to live. By goals, I mean the choices and tasks that are within reach, that we will pursue one way or another guided by a vision that may be distant and hazy. (1996 p.107)

This is "a practical rather than a very principled distinction", continues Chomsky; however, it does contain both anarchist philosophy of education and its practical implications. In this way Chomsky's distinction provides an all-round, though not always precisely defined frame for analysis of Wikipedia educational *praxis*.

Visions

The French Revolution is usually considered as the "formal beginning of anarchism" (Ward, 2004 p.1). Hence for many anarchists, predominantly but not exclusively for those working before the First International split-up between Bakunin and Marx, the discussion of visions begins with the three slogans of the French Commune: liberty, equality, and fraternity (Marshall, 1993 p.435). Anarchists' disillusionment with communism has often led them to omit those noble slogans in their writings. However, as Bakunin clearly and repeatedly stated, "the June defeat of the workers of Paris was the defeat of State socialism, but not of socialism in general" (Bakunin, 1964 p.279). The notions of liberty, equality and fraternity encompass the most general vision of anarchist society. It is impossible to conceive anarchist education in a non-anarchist society and *vice versa*; therefore, their blend can easily be taken for the first vision of anarchist education.

> The basic principles of human rights in this way gained life and reality in the educational spheres: *equality*, because that education embraced everyone, and *freedom*, because one became conversant with one's needs and consequently independent and autonomous. (Stirner, 1984 p.15)

For Piluso, freedom leads to "the involvement in a collective spirit which at once recognizes one's commitment to others and one's individuality" (1990 p.336). Based on the belief in

mutual aid as one of the basic characteristics of human nature, this is exactly the anarchist idea of fraternity.

Throughout the last paragraph, the notions of socialism and anarchism have been used as synonyms. According to Fischer's repeatedly quoted assertion, "every anarchist is a socialist, but not every socialist is necessarily an anarchist" (in Chomsky, 1970 p.xii); thus in the context of sharing the same beliefs in liberty, equality and fraternity, the terms socialists and anarchists can rightfully be interchanged. As soon as the discussion departs from those basic notions, however, anarchist and socialist views of education start to differ; in order to define a unique anarchist position, there is a need for clarifying more educational visions.

In order to come closer to a "philosophical vision of a liberated humanity" (Giroux, 1985 p.xvii), anarchist education is concerned with a specific kind of knowledge. According to Smith, such knowledge should be "rational, scientific and practical" (1990 p.125); according to Bakunin, it should be emancipatory (1964 p.327); according to Kropotkin, it should be "integral and complete" (1912 p.364)... Historically, in the education of adults, there was a term which comprised similar meanings: borrowing from past radical educators, the second vision of anarchist education is named "really useful knowledge" (Johnson, 1988 p.1). Really useful knowledge is a term burdened with many meanings. For more than a century, it was used by various anarchist, liberal, Marxist and other leftist schools of thought. According to Martin, for instance, "education is always a key resource in the broader struggle for democracy" (2006 p.14); in such a view, really useful knowledge becomes coloured with the vision of the perfect, or at least the best available, democratic society. Examples from the right include the post-modern approach, where really useful knowledge "is exchanged on the basis of its value to the customer", while "its real value is tied to increasing the efficiency of the distribution system" (Edwards, 1994 p.160). Such interpretations contrast with some of the basic anarchist ideas and beliefs, thus the second vision of anarchist education consists of the specific, anarchist definition of really useful knowledge.

The term was born during the first half of the 19th century from the opposition to educational schemes offering useful knowledge such as Mechanics' Institutes and Useful Knowledge Societies; "it drew on Enlightenment ideas of expanding human nature". It was mainly preoccupied with "education and politics, knowledge and power. Educating yourself and others, especially in a knowledge of your 'circumstances' was a step in changing the

world" (Johnson, 1988 p.5). In order to "challenge the relations of oppression and inequality" (Thompson, 1997 p.145), the notion of really useful knowledge rejects the principal differences between vocational training and education. Certainly, anarchist really useful knowledge encompasses Smith's, Bakunin's, Kropotkin's and other demands to education already discussed; it is, in the best meaning of the word, the *praxis* of life.

Combined with the vision of liberty, equality and fraternity, the vision of really useful knowledge already provides more distinction of anarchist education from other schools of thought. However, based exactly on the similarities between anarchist ideas of really useful knowledge and those of other radical traditions, anarchist education is sometimes viewed as dangerously close to some similar, but essentially different, radical schools of thought. For instance, although their educational *praxis* directly opposes basic anarchist attitudes about individual freedom and authority, it is not rare to find authors who ascribe Freire (Elliott, 1985 p.5) or Neill (Spring, 1998 p.81) to anarchism. Providing the final distinction from all other educational theories, the third vision of anarchist education is subscribed to the unique anarchist understanding of human nature and its interdependency with work and society. It can be summed up in the ideal of the highest respect for the needs of the individual, as viewed by anarchists; for the lack of a better expression, it is simply named humanity. Illustrating this vision, prominent anarcho-individualist Stirner writes: "thus the radii of all education run together into one centre which is called *personality*" (1984 p.25).

Anarchist education has three important visions: liberty, equality, and fraternity, really useful knowledge and humanity. The most general vision of liberty, equality, and fraternity dialectically comprises both the perfect conditions for nurturing each individual to achieve his or her full potential and the grounds of the perfect anarchist society; the vision of really useful knowledge is the main prerequisite both for the development the individual and his or her emancipation in the wider context of the society; the vision of humanity is mostly orientated to the development of the individual, his or her wishes, aspirations and needs. Despite the attractiveness of anarchist educational visions, it should be well remembered that they only describe a wish, an ideal, "the conception of a future society". In order to deal with the application of anarchist philosophy to educational practice or more practical "choices and tasks that are within reach" (Chomsky, 1996 p.107), it is therefore necessary to study the goals of anarchist education.

Goals

In his very successful comparison of anarchist and critical education, De Leon asserted five main goals of contemporary anarchist education:

- Urgency and radical change;
- Free association;
- Autonomous action;
- Cooperation and mutual aid;
- Combining activism and education (2006).

Arising from resistance to current political systems, urgency and radical change have always been the "trademark of anarchism" (Franks, 2006 p.116). Based on Kropotkin's belief in the evolutionary concept of anarchist revolution, the only way to achieving anarchist society is

> not to wait for a distant revolution but to reinvent daily life here and now. To transform the perception of the world and to change the structure of society is the same thing. By liberating oneself, one changed power relations and therefore transformed society… (Marshall, 2000 in Ward, 2004 p.75)

Thus the goal of urgency and radical change, standing "both as a practical response to its own right to a given situation, but also as a symbol of the larger vision of societal change" (Franks, 2006 p.118), first has to be exercised in education (Kropotkin, 1912 p.364).

There are numerous applications of this belief throughout the history of anarchist educational *praxis*. During his educational engagement with children of counter-revolutionary peasants in Yasnaya Polanya, "the count of peace" Tolstoy (Marshall, 1993 p.362) wrote: "There can be only one permanent revolution - a moral one: the regeneration of the inner man." (Tolstoy, 1990) At the opening of the Modern School in Barcelona, its founder and one of the most prominent early anarchist educators Francisco Ferrer addressed the public with the following words. "I am not a speaker, not a propagandist, not a fighter. I am a teacher… I want my contribution to the cause of liberty to be a young generation ready to meet a new era." (in Avrich, 1980 p.25) Despite declaring himself simply an educator, Ferrer had also been an active and quite militant activist in his youth. In the company of other anarchists, his case is hardly exceptional: "anarchists have always advocated for direct action against organizations, corporations, or other entities that subscribe to capitalist or other oppressive

practices" (De Leon, 2006). Thus the goal of urgency and radical change directly precedes the goal of combining activism and education; in Ferrer's example, the two are almost indistinguishable.

Based on their views about human nature, work and society, the majority of anarchists see state-supported schools as the main cause of cultural and social reproduction. Already William Godwin, "the first person to give a clear statement to anarchist principles" (Marshall, 1993 p.191), applied this argument when commenting on the introduction of compulsory schooling to Great Britain. "Before we put so powerful a machine under the direction of so ambiguous an agent, it behoves us to consider well what it is that we do. Government will not fail to employ it, to strengthen its hands, and perpetuate its institutions." (1971) From Godwin onwards, "the most articulate and powerful opposition to compulsory schooling has always come from anarchists" (Hern, 2003 p.1).

The universal, compulsory and free system of education was founded on four basic assumptions:

1. The state has the responsibility to educate all of its citizens.
2. The state has the right to force all parents to send their children to school.
3. The state has the right to force the entire community – including citizens without school-age children – to support by taxes the education of all children.
4. The state has the right to determine the nature of the education it offers. (Koetzsch, 1997 p.4)

According to anarchists, education should be available to everyone. For Goodman, "education is a natural community function" (1973 p.20); applying the aforementioned discussion of Marshall's distinction between "the State as a particular body intended to maintain a compulsory scheme of legal order" and "society as a sum of voluntary associations", (1993 p.12) it is obvious that society, rather than the state, has the responsibility to educate all of its citizens.

There is a plethora of both anarchist and non-anarchist arguments against Koetzsch's second statement, used all the way from anarchists of the golden age to contemporary advocates of home schooling (Hern, 2003). According to Korycinska, the main fallacy underlying the attitude that state has the right to force all parents to send their children to school is the confusion between education and schooling. Through education, "the scholar

hoped to become equipped with a well-rounded philosophy with which to face the world and her/his place in it. Schooling, on the other hand, has always had a much more limited meaning, more akin to training" (Korycinska, 1990 p.138). Such training, especially when exercised through state schools, inevitably leads to social and cultural reproduction. While, according to anarchist modification of Koetzsch's first statement, society has the responsibility to educate all of its citizens, this responsibility certainly doesn't extend to schooling. In Illich's words, "equal educational opportunity is, indeed, both a desirable and a feasible goal, but to equate this with obligatory schooling is to confuse salvation with the Church" (1977 p.15).

During the eighties, Reimer showed that children of the poorest ten percent of the United States population spend $2,500 of public funds for schooling over a lifetime, while the children of the richest ten percent spend about $35,000. At the same time, the richest ten percent of the population contribute in tax money only between four to five times more than the poorest ten percent. Simple mathematics shows that children of the richest ten percent get more public funds than their parents contribute; in other words, poor parents are funding the education of rich parents' children. Comparing Reimer's results with those from several other countries, Ward concludes that "the greater sums of money that are poured into the education industries of the world, the smaller the proportion which benefits the people at the bottom of the educational, occupational and social hierarchy" (1990 p.183). Forcing the entire community to support by taxes the education of all children is just another step towards the further development of social inequalities at the expense of the oppressed. Equal opportunities for everyone are fundamental to anarchist society; thus, the state has no right to exercise just another mechanism of social reproduction in terms of compulsory educational tax.

Koetzsch's fourth statement claims that the state has the right to determine the nature of the education it offers. For anarchists, however, for as long as education is in the hands of the state, even the reverse statement is irrelevant. Already in the late 1880s, commenting the shift from church to state schools, Bakunin recognises that teachers in the latter "will necessarily become, some without knowing it, others with full knowledge of the cause, teachers of the doctrine of popular sacrifice to the power of the State and the profit of the privileged classes" (Bakunin, 1970 p.40). The state determines the nature of the education it offers, whether it has or hasn't the right to do it, for as long as education is part of its

structure. For anarchists, this is another strong reason for insisting on full separation between education and the state.

As can clearly be seen from various arguments against Koetzsch's statements, anarchists see compulsory education as nothing less than an oxymoron; moreover, according to Bakunin's rejection of Koetzsch's fourth statement, anarchist education can't be efficiently run inside state supported institutions. For this reason, anarchists have always tried to invent radically new approaches: some of their solutions, such as following Illich's call for educational webs, seem almost prophetic in the context of recent developments in ICT.

> Universal education through schooling is not feasible. It would be no more feasible if it were attempted by means of alternative institutions built on the style of present schools. Neither new attitudes of teachers toward their pupils nor the proliferation of educational hardware or software (in classroom or bedroom), nor finally the attempt to expand the pedagogue's responsibility until it engulfs his pupils' lifetimes will deliver universal education. The current search for new educational funnels must be reversed into the search for their institutional inverse: educational webs which heighten the opportunity for each one to transform each moment of his living into one of learning, sharing, and caring. (Illich, 1977 p.7)

When applied to the *praxis* of contemporary education, De Leon's goals of free association and autonomous action are tightly interwoven and often indistinguishable. Nowadays, the state is the only entity with enough power to coerce everyone to do something: in this respect, compulsory and state schooling merge into one and the same thing. For this reason, those two goals can easily be merged into the goal of free, autonomous education.

Contemporary anarchist quests for educational autonomy can be summarized in Bey's metaphor of Temporary Autonomous Zones. "We are looking for 'spaces' (geographic, social, cultural, imaginal) with potential to flower as autonomous zones – and we are looking for times in which these spaces are relatively open, either through neglect on the part of the State or because they have somehow escaped notice by the mapmakers." (Bey, 2007) Bey's spaces can exist in the real world, as do remote, isolated communities; they can be primarily cultural, such as those found in works of art; imaginal, such as mythological places; virtual, such as cyber communities. Usually, they are a combination of all the above and more. They are temporary because they are based on the principle of free association: there can be no guarantee that people will want to associate tomorrow in the same fashion or in the same place as they do today. When applied to educational *praxis*, a Temporary Autonomous Zone

is the space for education free of social, financial and any other influence or restraint. Participation is voluntary and therefore inevitably temporary; curriculum is designed both from and for the involved community; and pedagogy is based on the highest respect for the individual. Almost a century before Bey described Temporary Autonomous Zones, Ferrer called for education based on the same principles.

> All the value of education rests in the respect for the physical, intellectual, and moral will of the child. Just as in science no demonstration is possible save by facts, just so there is no real education save that which is exempt from all dogmatism, which leaves to the child itself the direction of its effort, and confines itself to the seconding of its effort. Now, there is nothing easier than to alter this purpose, and nothing harder than to respect it. Education is always imposing, violating, constraining; the real educator is he who can best protect the child against his (the teacher's) own ideas, his peculiar whims; he who can best appeal to the child's own energies. (1909 in Goldman, 1969)

Emerging from arguments developed in various historic contexts, the discussion about the goal(s) of free association and autonomous action is mostly connected with state schooling. However, the globalisation process in which "world society has become increasingly interdependent" (Giddens, 1989 p.547) gave way to the rise of new socio-economic factors – large multinational corporations. An economic research from 1996 showed, "of the 100 largest economies in the world, 51 are corporations; only 49 are countries" (Anderson and Cavanagh, 1996 p.1). Thus, contemporary anarchists see very little if any difference between state, church or corporate schooling: the anarchist rejection of state schooling has spread to corporate schooling, and, increasingly, to strong anti-globalisation attitudes (Goodman, 1973 p.21).

Prerequisite for anarchist educational vision of liberty, equality and fraternity, one of the most important goals of anarchist education is cooperation and mutual aid. Applied to schooling, this means "stressing the importance of cooperation in establishing a school community, finding new ways of classroom evaluation, and modelling cooperative behaviour in school organizational structures" (De Leon, 2006). In pedagogy, the goal of cooperation and mutual aid is recognised by creating a supportive, egalitarian environment or Temporary Autonomous Zone and by understanding that more can be achieved by cooperating than by competition between peers.

The vast majority of anarchists sees social action and political engagement in terms of direct action, which represents "the idea that a person or a group of people act to achieve a particular social or political goal without primarily mediating that action through the formal processes and structures of the State" (Hart, 1997 p.42). The goal of combining activism and education is tightly interwoven with the whole anarchist *praxis*. Anarchists see the individual deeply rooted in society; thus education becomes "a highly developed form of anarchist direct action possessing the ability to transform and radicalise consciousness (Piluso, 1990 p.338). Probably the oldest expression of such an attitude can be found in anarchist ideas about revolution which, "in its ideal form, requires multiple successful confrontations of oppressive powers, rather than a single determining conflict" (Franks, 2006 p.263). In practice, continues Malatesta, it means that the vast majority of citizens have to understand both the goals and the means of revolution (1922 p.2). Anarchists do not simply combine activism and education; it is much more proper to say that activism is education (Bakunin, 1964 p.382).

Some distinctions and critiques

During the research process for this study, many discussions came back to the questions such as: *Doesn't your argument sound like reinvention of wheel?* or *What's the difference between anarchist and, for instance, liberal views upon this matter?* There are variants of this question; sometimes the inquiry concerned critical theory, socialism, Marxism or even ancient philosophers such as Plato or Aristotle, but generally liberalism was mentioned specifically. Due to similarities between anarchist and liberal views about certain basic notions such as freedom, the two are often compared in literature. However, notes Suissa, due to general under-representation of anarchism in philosophy of education, studies in this field are much rarer (2006 p.25).

For Rocker, anarchism consists of "the confluence of the two great currents which during and since French Revolution have found such characteristic expression in the intellectual life of Europe: Socialism and Liberalism" (2004a p.4); developing his idea, Chomsky showed that "anarchism may be regarded as the libertarian wing of socialism" (1970 p.xii). This idea, or more accurately its ancient predecessors, was strongly attacked by Bakunin's critique of "the individualistic, egoistic, shabby and fictitious liberty extolled by the school of J.J. Rousseau and other schools of bourgeois liberalism" (in Suissa, 2006 p.10).

Bakunin's critique is based on the profound distinctions between anarchism and liberalism, as well as more authoritarian schools of thought, that can be found already in the understanding of human nature. From all sides of the political spectrum, anarchism has traditionally been attacked "on the basis that its conception of human nature is excessively optimistic" (Morland, 1997 p.8). The majority of such critiques can be summed in Beloff's assertion that anarchism

> is based on a fundamental misunderstanding of human nature, on the unproven supposition that given total absence of constraints, or alternatively material abundance secured by communism, human societies could exist with no coercive element at all, the freedom of each being recognised as compatible with the freedom of all (Beloff, 1975 in Suissa, 2006 p.25).

Beloff's critique is based on a liberal understanding of human nature or the "natural condition of mankind" as described in Hobbes's masterpiece *Leviathan* (2002). In the state of nature, human beings are constantly fighting for scarce available resources. There will always be the strong and the weak. Since there are no natural restrictions on human actions, "in a war of all against all" human rights don't exist and life is "solitary, poor, nasty, brutish, and short" (Hobbes, 2002 p.xiii). In contrast to Bookchin's dialectical approach to the developmental nature of human reality, anarchists see the Hobbesian views of human nature and society as essentially static. For anarchists, Beloff's argument is based on an incomplete understanding of human nature; and it is thus rejected.

Several decades before Beloff's article was written, Rocker responded to a critique based on the similar grounds with the following statement: "I am an anarchist not because I believe anarchism is the final goal, but because there is no such thing as a final goal." (Rocker, 2004b p.9) The very base of the anarchist view of human nature consists of opposing, mutually counterbalanced "individual and social instincts – the one a most potent factor for individual endeavour, for growth, aspiration, self-realization; the other an equally potent factor for mutual helpfulness and social well-being" (Goldman, 1969). Those instincts, for anarchists, are indistinguishable and are basic characteristics of human nature.

> Authority and liberty are as old as the human race; they are born with us, and live on in each of us. Let us note but one thing, which few readers would notice otherwise: these two principles form a couple, so to speak, whose two terms, though indissolubly linked together, are nevertheless irreducible one to the other, and remain, despite all our efforts, perpetually at odds. (Malatesta, 1977 p.49)

What is impossible today can become possible and eventually normal tomorrow or the day after: anarchists see history as "a series of developments in either direction, towards a burgeoning of authority or flowering of liberty". Such thinking, continues Morland, "isolates the anarchists from the Marxists, for history becomes a matter of human will" (1997 p.13). Anarchist views of human nature may be far from consistent, but they are certainly not as naïve as their critics have claimed.

Both for anarchism and liberalism, the main purposes of the society are the happiness and prosperity of the individual; in order to achieve these goals, both advocate minimizing the functions of government. However, there is a basic distinction in the extent. As Rocker eloquently said, "when Jefferson clothes the basic concept of Liberalism in the words: 'that government is best which governs least', then Anarchists say with Thoreau: 'That government is best which governs not at all'" (2004a p.7).

Chapter 3: Towards a liberation of technology

Anarchism, technology and education

The structure of contemporary society is tightly interwoven with technologies. Their impacts dialectically expand to the very nature of human beings: McLuhan's assertion that "we shape our tools and thereafter they shape us" (1964) leads to the whole spectrum of anarchist responses. On the pro-technologist side of the spectrum, anarcho-environmentalists insist that the main causes of the current social order lie within the structure of contemporary society.

> Unless we realize that the present market society, structured around the brutally competitive imperative of 'grow or die', is a thoroughly impersonal, self-operating mechanism, we will falsely tend to blame technology… We will ignore their [social problems'] root causes, such as trade for profit, industrial expansion, and the identification of 'progress' with corporate self-interest. In short, we will tend to focus on the symptoms of a grim social pathology rather than on the pathology itself, and our efforts will be directed toward limited goals whose attainment is more cosmetic than curative. (Bookchin, 1993)

Adopting a more historical approach, Zerzan notes that "ever-growing documentation of human prehistory as a very long period of largely non-alienated life stands in sharp contrast to the increasingly stark failures of untenable modernity" (2004). Comparing prehistoric and historic societies, he finds that the main difference between the two is exactly in the levels of technological advancement; no more than a symptom for Bookchin, technology is the root problem for Zerzan. "It is here that a primitivist alternative has begun to emerge" (Zerzan, 2004): in his latest book *Against Civilization: Readings and Reflections*, he calls for the abolition of all technology and for the return to prehistoric, pastoral, non-alienated life.

Breaking the physical limits to human interactions, recently emerged and rapidly growing ICT provide a whole new spectrum of possibilities. They are great equalisers between users. Despite minor differences between technological platforms and "systematic, comprehensive, and frequently successful efforts" of certain governments "to limit the ability of its citizens to access and to post on-line content the state considers sensitive" (The OpenNet Initiative, 2007 p.52), the World Wide Web provides roughly the same resources and possibilities to everyone. However, as Zerzan warns, its use is burdened with a whole spectrum of problems. Most notably, it can be exercised only by those who possess access to necessary prerequisites such as electricity, phone line and computer. In this way, the "digital divide" (the term was first used in one of 1990s speeches by American president Bill Clinton)

separated humankind into two vast groups, highly congruous with the twentieth century distinction between the First and the Third Words.

One of the most widely used ICT-based tools in education is the "multilingual, web-based, free content encyclopaedia project" Wikipedia (2007a). There is hardly a teacher who hasn't dealt with students who extensively use Wikipedia as a source in their work: "students, particularly in the 'first world', are increasingly using Wikipedia as a source of information" (Szesnat, 2006 p.1). There is a small but rapidly growing body of research about its educational use. This can be roughly divided in two categories: research about the use of the Wikipedia knowledge database in instruction, and using Wikipedia as a tool for instruction. This study takes another approach to Wikipedia studies. Instead of looking at how Wikipedia can be used in instruction, it focuses on the philosophy built in its functioning. Inspired by similarities between the basic postulates of Wikipedia and anarchism and supported by Reagle's article showing the high degree of similarity between Kropotkin's idea of "mutual aid and interdependent decision making within the Wikipedia" (2005), it seeks for model in the philosophy of anarchism.

Educational praxis of Wikipedia

Wikipedia is a popular web-based encyclopaedia edited freely and collaboratively by its users. Its main technological base is the software called Wiki; according to its inventor Ward Cunningham (2007), Wiki is designed according to the following principles:

- Open – Should a page be found to be incomplete or poorly organized, any reader can edit it as they see fit.
- Incremental – Pages can cite other pages, including pages that have not been written yet.
- Organic – The structure and text content of the site are open to editing and evolution.
- Mundane – A small number of (irregular) text conventions will provide access to the most useful page mark-up.
- Universal – The mechanisms of editing and organizing are the same as those of writing so that any writer is automatically an editor and organizer.
- Overt – The formatted (and printed) output will suggest the input required to reproduce it.
- Unified – Page names will be drawn from a flat space so that no additional context is required to interpret them.
- Precise – Pages will be titled with sufficient precision to avoid most name clashes, typically by forming noun phrases.

- Tolerant – Interpretable (even if undesirable) behaviour is preferred to error messages.
- Observable – Activity within the site can be watched and reviewed by any other visitor to the site.
- Convergent – Duplication can be discouraged or removed by finding and citing similar or related content.

Grounded in those principles, Wiki provides an egalitarian, open and free technological base for collaborative Internet projects. Its largest and the most famous application – Wikipedia – is funded exclusively through voluntary donations. Only a very small number of staff is employed in basic technical maintenance; contribution of articles and all levels of editing are done only by volunteers. Its organization is linear: each contributor has equal rights to create and edit all pages. All articles, including rules of contributing and conduct, are constructed by the mutual agreement of all interested peers; the same goes for promotions of individuals to higher positions such as editors and administrators.

The process of contributing to Wikipedia is essentially the following: A contributor chooses the topic of interest, creates a new page, provides a relevant title and writes an entry. Entitling, writing style, linking to other categories and all other activities are subject to strict rules; immediately upon saving, the page and the history of all changes become visible to any Wikipedia visitor. Upon reading the article, another contributor may object that the topic is un-encyclopaedic or irrelevant; in such case, he or she can propose its deletion. An article concerning a relevant topic may contain wrong, incomplete or poorly structured information. In this case, any contributor can change or reformulate the entry; immediately upon saving any changes, the improved version becomes visible to everyone. A contributor may also put a remark about an article on the top of the page, inviting other contributors to help improving the article or calling for discussion about any of its aspects. Both the original and succeeding contributors check the new version and add further improvements; through multiple iterations. An article is work in progress for as long as contributors are interested in working on its content. In a case of dispute between contributors about any element of the article or its deletion, all contributors discuss the issue and consensually make a final decision. The Wikipedia interface (Figure 1) is simple and intuitive. Its use requires only very basic ICT skills; in this way, contributing to Wikipedia is available to almost anyone connected to the Internet.

Figure 1: Wikipedia interface
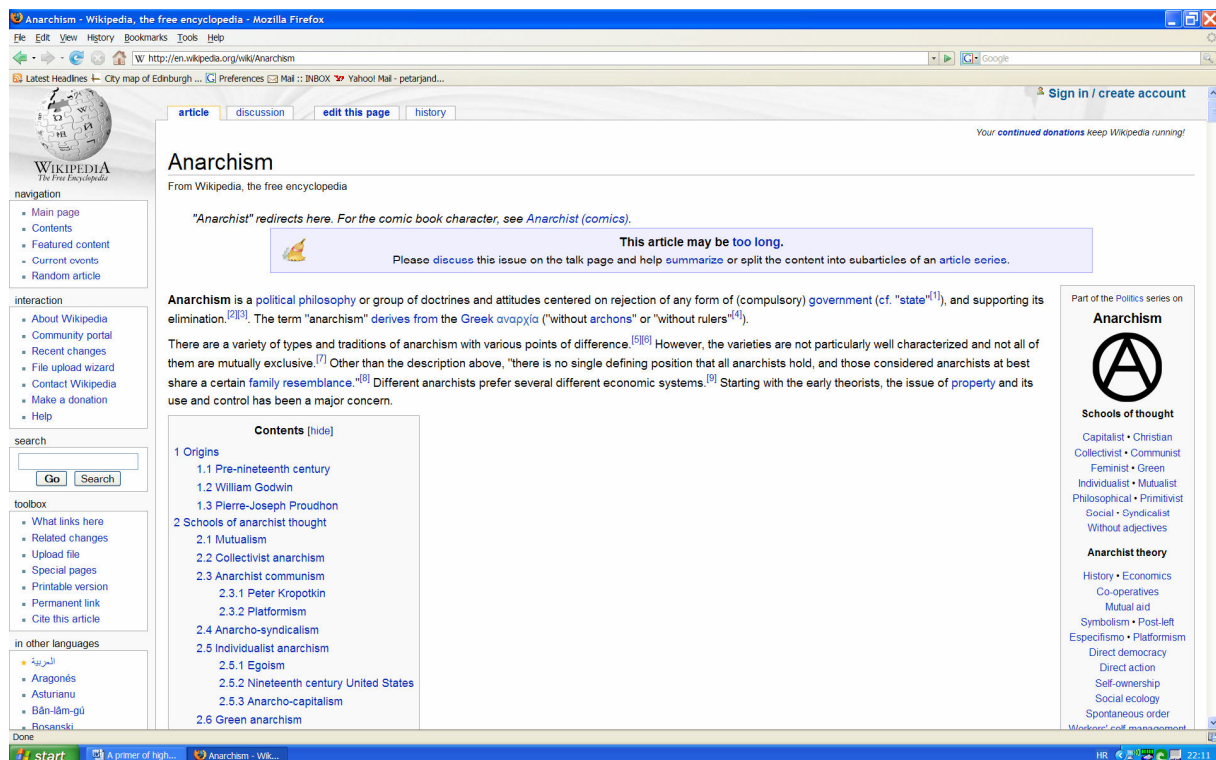
Source: Retrieved 21 July 2007 from http://en.wikipedia.org/wiki/Anarchism.

Wikipedia entries are never complete. Even articles that have not been altered for a long time are always open to discussion and change; topics that were not relevant yesterday or to one group of Wikipedians may become relevant today or to another group of Wikipedians. In control of all aspects of their engagements, contributors to Wikipedia are active masters of the medium. In this way, Wikipedia embodies the prophetic McLuhan's assertion from pre-Internet era that "the user is the content" (in Levinson, 2001 p.39).

As of 17th July 2007, the English-language Wikipedia had 4,880,432 registered user accounts; allowing for anonymous edits, the total number of contributors was estimated to be at least double. At the same date, it contained the total of 9,571,508 pages, with an average of 15.74 edits per page (Wikipedia, 2007b). From its foundation in 2001, the number of contributors, edits and articles has risen continuously (Appendix 1). A common model of its growth consists of three premises:

- more content leads to more traffic
- which leads to more edits
- which generate more content (Wikipedia, 2007c).

The average rate of Wikipedia growth depends on size of a Wikipedia. In the language of mathematics it is a complex, essentially exponential function (Almeida, Mozafari and Cho, 2004 p.2): in simple words, the larger a Wikipedia is the faster it grows. Wikipedia is based on the limited source of human knowledge, hence its growth will eventually have to cease; however, it shows no signs of slowing anytime soon.

As of 17th July 2007, Wikipedia has entries in 253 languages (2007d). Both for its size and language barriers, when referring to global Wikipedia it is common to use both singular-Wikipedia and plural-Wikipedias. In order to make conclusions about Wikipedia and education, it is necessary to have a group of users who can understand each other. The English-language Wikipedia is by far the largest of all: in order to obtain the biggest possible statistical sample, it was chosen as the case for this study. Based on analysis of Wikipedias in various languages in terms of complex networks, "it is very likely that the growth process of Wikipedias is universal" (Zlatic, Bozicevic, Stefancic and Domazet, 2006 p.9); for this reason, conclusions about its growth can be rather confidently applied at least to languages of similar size.

One of the most important educational aspects of Wikipedia is "whether the success of Wikipedia results from a 'wisdom of crowds' type of effect in which a large number of people each make a small number of edits, or whether it is driven by a core group of 'elite' users who do the lion's share of the work". Extensive research using several kinds of measurements and numerous languages showed that the biggest initial contributions were driven by 'elite' users, while the growth of Wikipedia soon resulted in a "dramatic shift in workload to the 'common' user" (Kittur, Chi, Pendleton, Suh, and Mytkowicz, 2007 p.1). Such trends fit well to diffusion of innovations theory (Rogers, 2003). As any other new innovation or idea, contributing to Wikipedia was first accepted by small groups of innovators and early adopters; few years after its foundation, contributing to Wikipedia is somewhere in the stage of early majority. Diffusion of innovations theory is based on Bell curve mathematic division (Figure 2). It is hard to determine the exact present position of Wikipedia in the curve; however, Rogers' theory predicts inevitable shift to common users or democratisation of participation in Wikipedia.

Figure 2: Bell curve showing diffusion of innovations.
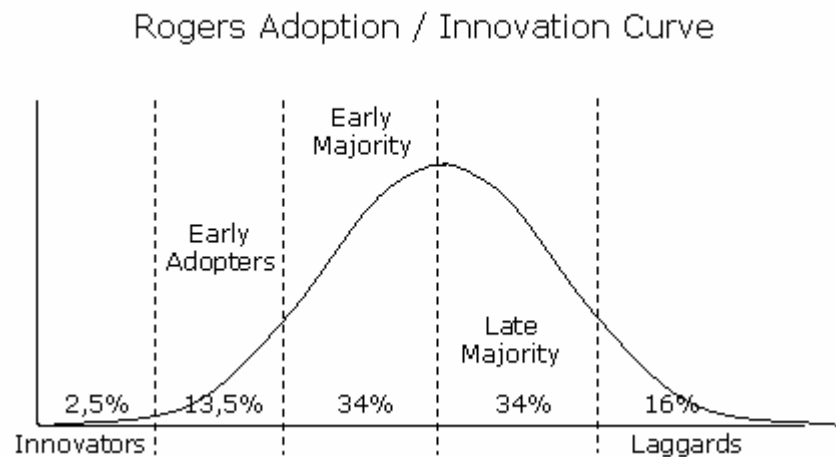
Source: Retrieved 23 July 2007 from
http://www.12manage.com/methods_rogers_innovation_adoption_curve.html.

Contemporary Wikipedia is mostly edited by common people; nevertheless, Giles'
famous research shows that "Wikipedia approaches Encyclopaedia Britannica in terms of the
accuracy of its science entries" (2005 p.1). The Britannica's immediate counter-research
responded that "almost everything about the journal's investigation, from the criteria for
identifying inaccuracies to the discrepancy between the article text and its headline, was
wrong and misleading" (Encyclopædia Britannica, 2006); however, the majority of
independent researchers agree that "Wikipedia is not Britannica – but it's close" (Lamb, 2006
p.1). Accuracy is one of the main issues in Wikipedia studies. Apart from usability as an
academic source, it implies the practical success of the philosophy it is built on. In the long
run, the success of free, egalitarian Wikipedia in terms of accuracy would make paid,
authoritarian Britannica idle: effects of this process would certainly strongly reflect to the
whole academic community and beyond.

Early researchers of Wikipedia editing policy were extensively concerned with the
problem of vandalism, i.e. purposeful altering or deleting the entries with false statements.
However, the majority of such research proves that "the site is subject to frequent vandalism
and inaccuracy, just as sceptics might suspect—but the active Wikipedia community rapidly
and effectively repairs most damage" (Viégas, Wattenberg and Kushal, 2004 p.575).
Moreover, the researchers found that most vandalism in Wikipedia is removed within five
minutes.

Created and maintained as an online encyclopaedia, Wikipedia wasn't intended to be a tool for instruction. However, the described editing process seems to have interesting parallels with, for instance, student-supervisor work on a dissertation. In order to compare those two processes, let us briefly analyse the process of developing a dissertation at the Moray House School of Education at the University of Edinburgh. In the beginning, student approaches the potential tutor and requests supervision. Upon the supervisor's acceptance, they start discussing the topic in terms of relevance and structure; the first outcome of these discussions is the dissertation proposal, which is sent to the Board of Examiners for approval. Upon acceptance of the proposal, student starts the research process. Following the supervisor's guidance, he or she writes several drafts which are read and discussed with the supervisor; through multiple iterations, the both student and supervisor improve the research until it becomes ready for submission.

The comparison between writing a dissertation and editing Wikipedia shows that those two processes follow essentially the same work pattern (Figure 3). However, there are three main differences between student-supervisor academic work and collaboration between Wikipedians.

Figure 3: Work pattern of writing an academic dissertation and contributing to Wikipedia.
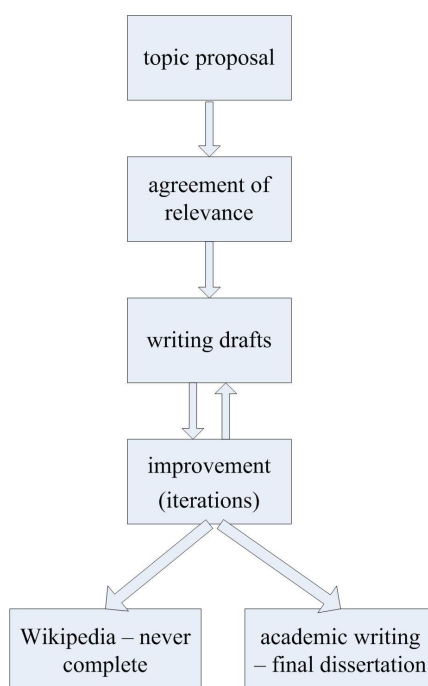
The first difference lies in the relationship between the involved parties. In an academic environment, the educational process is based on teacher's authority coming from his or her position in the system. Exercising this authority, the academic supervisor has the power to insist on an element of dissertation or relevance of the topic which, in some cases, might directly oppose student's opinion or the desired course of studies. Wikipedia, in contrast, is based on free and consensual collaboration between peers. The only authority a contributor can have is the power of arguments: hidden by nick-names, opponents in discussions can be anyone from manual workers to distinguished academics. The second difference is the number of people potentially involved. In the academic setting, a student typically has one or two supervisors; in Wikipedia, however, any page of average interest is edited by more than five people (Wikipedia, 2007b). The third difference is that academic work has its end product – the dissertation – while Wikipedia entries are never complete.

Wikipedia contributors do not get any external reward for their engagement. Academic students, in contrast, are strongly extrinsically motivated for obtaining a degree. Together with differences between student-supervisor academic work and collaboration between Wikipedians, this makes a profound impact to the natures of engagements in those processes. However, they share the basic work pattern: for the same reasons why writing an academic paper is education, contributing to Wikipedia is essentially an educational process.

Wikipedia and anarchism

Engagement in Wikipedia is essentially educational. In order to decide whether it is anarchist, the first step is to compare their visions. As can easily be understood both from its technical and organizational features, each act of contributing to Wikipedia is a good example of the first vision of anarchist education: liberty, equality, and fraternity. Liberty, for participation is completely voluntary; equality, for its linear organization and consensual decision making; fraternity, for its success is based on mutual aid and respect between all contributors, through the editing process in which one "both constructively participates in the community and retains his or her individuality" (Ferrer, 1909 in Goldman, 1969). By mutual consensus Wikipedians do not only construct their own "truth"; through the process of negotiation, they also decide which knowledge is relevant for them. Providing each contributor with equal opportunities for sharing current concerns, the content of Wikipedia provides probably the best definition of the second vision of anarchist education: really useful knowledge. Each contributor voluntarily chooses the nature of his or her contribution: writing,

editing, organizing, discussing or counselling less experienced users. This feature makes Wikipedia fully orientated to the development of the individual – his or her wishes, aspirations and needs – or simply to the third vision of anarchist education: humanity.

Good correspondence of Wikipedia principles to visions of anarchist education is a strong indicator of its overall anarchist organization. However, warns Chomsky, visions are often contrasted to their applications (1996 p.108). Measuring the success of their practical implementation, analysis of engagement in Wikipedia through the goals of anarchist education provides an insight into its *praxis* as experienced by ordinary user.

The goal of urgency and radical change is based on the belief that the only way of achieving anarchist society is "not to wait for a distant revolution but to reinvent daily life here and now" (Marshall, 2000 in Ward, 2004 p.75). From its establishment to each individual contribution, Wikipedia is based on the principle of urgency: instead of waiting for publishers to issue the encyclopaedia they want, its founders and contributors simply create and maintain their own. Such activity is a prime example of radical direct action. It is direct, for each contributor engages in the process of editing "without primarily mediating that action through the formal processes and structures of the State" (Hart, 1997 p.42); it is radical, for the content of Wikipedia solely consists of knowledge relevant to its contributors thus denying any kind of higher authority.

Wikipedia is one of the most striking examples of a successful large-scale project based solely on free association. Funded exclusively by voluntary contributions and run in virtual space, it is free of all kinds of influences either from capital or from the state. Based on voluntary engagement, it conforms to no rules apart from those consensually created by the community. It can persist for just as long as its contributors pursue their activities, hence it is intrinsically temporary. In this way, Wikipedias in various languages offer advanced examples of Bey's Temporary Autonomous Zones – the only spaces allowing the full extent of anarchist educational *praxis*.

The goal of cooperation and mutual aid lies at the very foundations of Wikipedia. Without a sufficient level of both, the project would simply not be operational. However, this doesn't imply smooth, easy operation: as predicted by anarchist thinkers from Kropotkin onwards, the Wikipedian community constantly struggles to maintain the delicate balance

between its contributors' individual and social instincts. The prime examples of such a struggle are constant edit wars "when two or more contributors repeatedly revert one another's edits to an article" (Wikipedia, 2007e). As can be seen from Figure 4, such disputes are regulated by the strong set of rules; developed by and for the community, those rules are subject to constant discussion and change. When rules are insufficient, contributors enter one of the specific dispute resolution processes; if this fails, the last resort is arbitration.

Figure 4: An example of Wikipedia official policy about resolving disputes

Source: Retrieved 21 July 2007 from

http://en.wikipedia.org/wiki/Wikipedia:Resolving_disputes.

The final goal to be discussed is combining activism and education. As already shown, engagement in Wikipedia is a prime example of radical direct action. The Wikipedian community quickly welcomes a new contributor: offering instruction, more experienced contributors direct the newcomer to introductory, policy and other pages. Contributing to Wikipedia is a constant, dialectical teaching and learning process; in this way, it is organized exactly according to Bakunin's idea that activism is education (Bakunin, 1964 p.382).

Engagement in Wikipedia corresponds well to the goals of anarchist education; in fact, it is hard to conceive a contemporary education system that would achieve a better match.

Such a conclusion, however, still doesn't fully confirm that Wikipedia is based on anarchist beliefs. For this reason, the following analyses challenge its *praxis* in the light of basic concepts of anarchist philosophy of education.

Vast voluntary participation in Wikipedia speaks for itself in favour of Bakunin's ideas about the social nature of human beings. In a similar fashion, the non-sustainability of vandalism supports towards Kropotkin's assertion that the main characteristic of human nature is mutual aid between individuals. The case of Wikipedia strongly opposes the liberal idea that "people, being rational, will not voluntarily cooperate to provide themselves with public goods" (Taylor, 1987 p.ix). On the contrary, it sets a prime example of almost five million registered individuals (and at least as many unregistered) who voluntarily cooperate to provide everyone with the basic public good – a free, relevant encyclopaedia.

Wikipedia solutions to various practical problems such as edit wars and vandalism are based on the education of all its contributors in dialogue and consensus. The practical success of such enterprise conforms to Bookchin's idea about the developmental nature of human reality; more specifically, it confirms Bakunin's and Ferrer's belief that human nature can be nurtured for the benefit of the community.

Both the size and stability of Wikipedia strongly confirm the basic anarchist belief that organization without authority is possible; for anarchists, lack of authority does not imply chaos.

> A mistaken – or, more often, deliberately inaccurate – interpretation alleges that the libertarian concept means the absence of all organization. This is entirely false: it is not a matter of 'organization' or 'nonorganization', but two different principles of organization. (Voline in Guerin, 1970 p.43)

Replacing the word 'libertarian' with 'Wikipedian', Voline's statement remains as true as in the original.

Based on voluntary engagement of equal individuals, contributing to Wikipedia couldn't be further from Woodcock's "tyranny of the clock" (1997 p.53), class exploitation or social reproduction. Without coercion, the primary cause for engagement is the pleasure obtained from an activity; for anarchists, such work is viewed as "a blessing, a lightening of

life" (Morris, 1997 p.36). Such approach to engagement in Wikipedia makes a viable base for providing equal opportunities to everyone; moreover, through its ludic nature, each individual is allowed to achieve his or her full potential.

One of the most important features of Wiki is that "the mechanisms of editing and organizing are the same as those of writing so that any writer is automatically an editor and organizer" (Cunningham, 2007); in plain language, there is no difference between "technical" and "academic" contributions. In order to create or edit an entry, each contributor has to do both tasks simultaneously. Certainly, it is possible to get voluntary help or advice from more experienced users: after all, Wikipedia is based on the principles of cooperation and mutual aid. However, each Wikipedia contributor is well aware that the old question: *Who will do the dirty work?* has just one answer: *Everyone*.

The process of editing Wikipedia involves the full synergy of theory and practice, academic and technical skills, personal wishes and abilities; in short, it is the complete exercise of encyclopaedic *praxis* for everyone. For educational process of engagement in Wikipedia, there is no difference between vocational training and education; this principle corresponds well to anarchist concept of integral education.

The critiques of anarchist views of work are based on two assumptions: that integral education would provide general knowledge inadequate for highly skilled professions, and that human beings simply wouldn't work without coercion. The majority of research on accuracy of Wikipedia, particularly those comparing its science entries with those of Encyclopaedia Britannica, indicates that the first assumption is at least ambiguous if not completely wrong. The second assumption can be seriously questioned on statistical grounds: only English-language Wikipedia has a population of roughly the same size as Greece or Belgium (Nation Master, 2007) and a similar number of pages. Wikipedia contributors do not get any external reward for their engagement. Academic students, in contrast, are strongly extrinsically motivated for obtaining a degree. It would certainly be interesting to pursue a socio-psychological research about contributors' motives for engagement in Wikipedia; such inquiry, however, is left to future researchers.

According to Marshall, society is "a sum of voluntary associations" (1993, p.12). Consisting of approximately ten million contributors, English-language Wikipedia makes a

virtual society with the population of approximately the size of an average European country (Nation Master, 2007). For anarchists, the relationship between education and society is a prime example of the chicken and egg problem. The concept of education takes a central part not only in the quest for personal freedom but also for the achieving of a free, equal, just, anarchist society; at the same time, anarchist education can exist only in a truly egalitarian society. The free, egalitarian Wikipedia is based on the specific kind of engagement which is inherently educational; such engagement is feasible only in a free, egalitarian Wikipedia.

All members of Wikipedia society have exactly the same privileges; even the most basic laws are subject to constant questioning and change. There are no elections or permanent representatives of any group of people; chosen by the consensual agreement of all interested members, editors, administrators and contributors in other "higher" positions can be called off at any time of their engagement and others can be appointed. All decisions are purely consensual: in a case of dispute, the concerned parties can choose a mutually respected arbiter.

Constantly questioning its basic assumptions, Wikipedia society develops unpredictably and spontaneously; based on a belief in developmental nature of human beings, anarchists also do not have universally accepted vision of perfect society. Participation in Wikipedia society is on a fully voluntary basis; free from all forms of coercion, there is no social reproduction.

Wikipedias provide an inexhaustible range of Bey's Temporary Autonomous Zones to anyone who connects to the Internet; in this way, they provide appropriate spaces for its specific, essentially educational engagement based on anarchist principles. Starting by few young enthusiasts as a small, independent project, Wikipedia was quickly founded by millions of people and became one of the world's largest virtual learning societies. Its size and stability indicate that, at least in the virtual world, anarchist society is possible.

Analysis of Wikipedia *praxis* in the light of basic concepts of anarchist philosophy of education shows the following:

- Engagement in Wikipedia is based on essentially anarchist beliefs about human nature.

- Engagement in Wikipedia is very close to anarchist concept of work.
- Wikipedia creates a virtual anarchist society.

Those conclusions can be interpreted in two different ways: as a control mechanism showing whether Wikipedia is based on anarchist principles, and as a proof or rejection of principles themselves. This paper is strongly committed to the first interpretation: in its present state, the latter provides no more than indications that have to be thoroughly studied before full confirmation.

Based on anarchist views of human nature, Wikipedia creates a virtual anarchist society: open, ludic engagement in this society is completely interwoven with the specific kind of education of all its members. Visions of Wikipedia education are liberty, equality, and fraternity, really useful knowledge and humanity; its goals are urgency and radical change, free association, autonomous action, cooperation and mutual aid and combining activism and education. Just like the society itself, engagement in Wikipedia is a process of constant improvement and change: there are no rules of conduct other than those set and constantly questioned by its very members. The Wikipedian "school" is neither compulsory nor provides any extrinsic reward. It has no teachers, students, administrators, cleaners, curriculum, or power relations other than voluntary acceptance of a stronger argument. Moreover, the process of learning and teaching is not even named education! Based on the anarchist belief that teaching and learning are integral parts of human nature education happens spontaneously, nevertheless very efficiently, with the goal of providing the whole community with free, accurate, really useful encyclopaedia.

Instead of taking up "predetermined problems in a ritually defined setting", Wikipedia provides an anarchist alternative in terms of "a network or service which gives each man the same opportunity to share his current concern with others motivated by the same concern" (Illich, 1977 p.26). It is widely accepted among radical educators that such an approach leads to more really useful knowledge (Johnson, 1988 p.3); in this respect, the example of Wikipedia can offer a lot to traditional education systems.

Transferring power relations from Wikipedia to the real world is faced with much more difficulties. No-one has ever created a fully egalitarian education system of nearly similar size and stability as Wikipedia; even when dealing with groups smaller by several

orders of magnitude, past and present educators had to maintain at least a minimum of distinction from their students. In this respect, the case of Wikipedia can certainly help developing other virtual education systems; however, it is highly likely that transferring Wikipedia power relations to the real world, especially for populations counted in tens of millions, would end up with failure.

Albeit with some difficulty, the Wikipedia community manages to counterbalance social and individual instincts of its members. Temporarily engaged in a virtual society, the average Wikipedian behaves in ways highly congruous to Kropotkin's belief in mutual aid as the main characteristic of human nature. However, contributors spend only a small portion of their waking lives in Wikipedia society and choose the exact duration of their engagement; it is unclear whether people would be equally altruistic and courteous in a full-time arrangement. When a Wikipedian has had a "bad day" he or she can simply not connect to the Internet or shut the Web browser down at any moment of the engagement; physical residence in a community based on Wikipedia principles would impose different dynamics of joining and leaving.

Engagement in Wikipedia is de-personalised. People can create identities entirely different from their reality: men can become women, old people can become young and warriors can become peace-makers. One can change identities like clothes, thus there's no fear about experimentation with all kinds of behaviours. Another aspect of impersonality is the lack of personal contact. For the majority of people, it is easier to express and accept critique or advice through a text medium than in person; moreover, the asynchronicity of Wikipedia collaboration allows indefinite time for reflection before answering a message. According to Burbules, those aspects enhance the quality of education through collaboration in Wikipedia:

> Educationally, it can be extremely useful to have the distance and impersonality that online interactions afford. Some students speak up more under such circumstances; there is more time to reflect on what one is writing or reading in an online discussion, as opposed to the rapid flow of live conversation; students are required to be more independently motivated, and to find other sources of feedback and support than immediate teacher recognition or approval. (2002 p.389)

Transferred to the real world, engagement in Wikipedia-like society would impose inevitable restrictions in terms of both creation of identity and impersonality of communication. Such

transfer may change its members' patterns of behaviour: it is to be expected that people burdened with the real-life consequences of their activities would behave differently than hidden under self-created, essentially anonymous identities.

Limited to the privileged side of the digital divide (predominantly from the First World) which possesses computers, unrestricted Internet connection and other cultural and social predispositions for participation, Wikipedia society is quite homogenous. Already before the advent of ICT, the First World became a "global village" (McLuhan, 1967 p.63). Its members share similar cultural backgrounds; under wide influences of globalization and recent political integrations such as the rapid expansion of the European Union, the First World rapidly enhances its cultural and social coherency. The majority of the Third World's population lives in cultural and social spaces that are both radically different from the First World's and from each other (such as, for instance, Islamic and Hindu societies). It is therefore to be expected that rapid spreading of Wikipedia to the Third World would not just influence its size, but also the overall nature of participation. Growth of Wikipedia is "very sensitive to community driven decisions" (Zlatic, Bozicevic, Stefancic and Domazet, 2006 p.9); devised by and exercised in the community, patterns of behaviour are inherently interconnected with the individual cultural capital of each contributor. Hence it is to be expected that the main features of Wikipedia, from the criteria for encyclopaedic entries to communication patterns, will drastically vary between, for instance, Aboriginal and Swedish speaking community.

When applied to the dispute between Bookchin's belief and Zerzan's repugnance towards technology, the case of Wikipedia seems to decide in favour of the first: contrary to primitivist convictions, technology is one of the means which make anarchist organization possible. However, such conclusions are derived from virtual Temporary Autonomous Zones; their transfer to the real world is restricted by numerous psychological, cultural, economic and social parameters. The case of Wikipedia proves the existence of virtual and anonymous anarchist society consisting predominantly of the richest fifth of worlds' population; it says very little about possibilities for anarchist education outside such framework.

Conclusion

It seems that every time a historical event chops off a head of the anarchist Hydra, two more grow in the most improbable places. Contrary to the common belief that anarchism belongs to history lessons or Zerzan's idea that anarchism is feasible only in a primitive, non-technologist society, the example of Wikipedia clearly shows that anarchist educational ideas are flourishing in the most unexpected place: in the field of cutting edge information and communication technologies. Old ideals got dressed up in fancy new clothes; old ideas are expressed in new jargons. However, as Shakespeare famously put it:

> That which we call a rose
> By any other name would smell as sweet. (2007 p.31)

From a structure based on the belief in certain kind of human nature, attitudes to work and the kind of community they create, Wikipedia is a prime example of anarchist society. Anarchists see no significant difference between a society and the education of its members; in Wikipedia, education happens spontaneously through participation in society. The structure of Wikipedia accentuates this further: a closer look at the editing process reveals the same structure as in the process of writing an academic paper. In its current state, engagement to Wikipedia is a prime example of feasible, living, large scale anarchist education in more than 250 languages.

During only six years, the Wikipedia community has reached the size of an average European country and its rapid growth does not seem to cease. Its pace is faster than the majority of academic institutions are able to follow; its influence within the population of learners far exceeds our understanding of consequences of its use. The vast majority of academic research on Wikipedia deals with the problems such as accuracy or modelling its growth. However, there is more to Wikipedia than content or size: already in the early 1970s, McLuhan foresaw the advent of interactive media and made a prediction "the user is the content" (in Levinson, 2001 p.39). Using Wikipedia doesn't just provide correct or incorrect information; it shows, among other things, which information is relevant to its contributors, the kind of mutual relationships they have, and the importance they give to certain taken-for-granted aspects of everyday life such as the authority of experts.

It should always be remembered that Wikipedia is a virtual society. Educators can observe its development or sometimes make an experiment; however, conclusions based on such observations can never be literally transferred to the real world. When a pharmacist grows a culture in a test tube, he or she cannot accurately predict whether it will survive or mutate when exposed to outer conditions. Conclusions drawn from the virtual world of Wikipedia have the same character. However, for the same reasons that such uncertainty does not prevent pharmacists from using test tubes, educators should not close their minds to new research opportunities. The era of ICT not only provides only new challenges; it also offers radically new possibilities for educational research.

This paper does not offer judgements about anarchism, contemporary education, technology or the educational use of Wikipedia; it was born from the urge to obtain a better understanding of the philosophy built into the technology that every educator meets on daily basis. For anarchists, the proof that Wikipedia is based on anarchist principles provides a practical insight into anarchist ideas about human nature, work and society; above all, the example of real, working, large-scale anarchist education is a serious rejection of accusations for mere utopianism. For educators, its connections with anarchism offer an insight into the philosophy many of their students are daily supporting through active participation. The majority of contemporary students are Digital Natives: their engagement in the virtual world shapes not only the content they learn, but more importantly the worldview they carry into real-world environments. Understanding how the old, rigorously studied anarchist ideas found their ways to the very foundations of one of the most widespread technologies used in education, it is possible to draw connections between the present and the past. Following the old proverb that history is the teacher of life, it might also help educators design a better education for the future.

References

Almeida, R B, Mozafari, B and Cho, J (2004) 'On the Evolution of Wikipedia', Proceedings of the International Conference on Weblogs and Social Media, Boulder: University of Colorado.

Anderson, S and Cavanagh, J (1996) 'Corporate Empires', *The Multinational Monitor*, Vol.17 No. 12.

Aristotle (1956) *Metaphysics*, London: Dent.

Avrich, P (1980) *The Modern School Movement – Anarchism and Education in the United States,* Princeton: Princeton University Press.

Bakunin, M (1964) 'Upbringing and Education' in Maximoff, G P *The political philosophy of Bakunin: scientific anarchism*, London: Collier-MacMillan Limited.

Bakunin, M (1970) *God and the State*, New York: Dover Publications Incorporated.

Bernieri, C (1997) 'The Problem of Work' in Various Authors *Why Work?*, London: Freedom Press pp.59-83.

Bey, H (1985) *The Temporary Autonomous Zone – Ontological Anarchy, Poetic Terrorism*, New York: Autonomedia.

Black, B (1985) *The Abolition of Work and Other Essays*, Port Townsend: Loompanics Unlimited.

Bookchin, M (1980) 'Anarchism: Past and Present' *Comment: New Perspectives in Libertarian Thought*, Vol. 1, No. 6.

Bookchin, M (1993) 'What Is Social Ecology?' In Zimmerman, M *Environmental Philosophy: From Animal Rights to Radical Ecology*, Englewood Cliffs: Prentice Hall.

Bookchin, M (1995) *The Philosophy of Social Ecology: Essays on Dialectical Naturalism*, Montreal: Black Rose Books.

Bourdieu, P and Passeron, J C (1994) *Reproduction in Education, Society and Culture*, London: SAGE Publications Ltd.

Burbules, N C (2002) 'Like a Version: playing with online identities', *Educational Philosophy and Theory*, Vol. 34, No. 4.

Chomsky, N (1970) 'Introduction' in Guerin, D *Anarchism – From Theory to Practice*, New York: Monthly Review Press.

Chomsky, N (1996) *Powers and Prospects: Reflections on Human Nature and the Social Order*, Boston: South End Press.

Cunningham, HG (2007) 'Wiki Design Principles', Unpublished project description, Wikipedia Retrieved 17 July 2007 from http://c2.com/cgi/wiki?WikiDesignPrinciples.

De Leon, AP (2006) 'The time for action is now! Anarchist theory, critical pedagogy, and radical possibilities', Jo*urnal for Critical Education Policy Studies*, Volume 4, Number 2.

Debord, G (1994) *The Society of the Spectacle*, New York: Zone Books.

Edwards, R (1994) 'Really Useful Knowledge? Flexible Accumulation and Open and Distance Learning', *Studies in Continuing Education*, Vol.16 No.2 pp.160-171.

Elliott, M (1985) 'Anarchism: an annotated bibliography', Proceedings of the 'Education for Social Change' Seminar, New Zealand: Christian Action on Poverty.

Encyclopædia Britannica (2006) 'Fatally Flawed: refuting the recent study on encyclopedic accuracy by the journal Nature', London: Encyclopaedia Britannica Inc.

Encyclopædia Britannica (2007) 'Work', London: Encyclopaedia Britannica Online Retrieved 15 May 2007 from http://www.britannica.com/eb/article-9382922.

Franks, B (2006) *Rebel Alliances: the means and ends of contemporary British anarchism*, Edinburgh: AK Press.

Gibson, P (1990) 'Kropotkin, Mutual Aid and Selfish Genes', *The Raven – anarchist quarterly*, Vol.4 No.4 pp.364-371.

Giddens, A (1989) *Sociology*, Frome: Polity Press and Basil Blackwell.

Giles, J (2005) 'Internet encyclopaedias go head to head', *Nature*, Vol. 438.

Giroux, H (1985) 'Introduction' in Freire, P *The Politics of Education*, London: MacMillan Publishers Ltd.

Godwin, W (1971) *Enquiry Concerning Political Justice*, London: Oxford University Press.

Goldman E and Most, J (1896) 'Anarchy Defended by Anarchists', *Metropolitan Magazine*, Vol. IV, No.3.

Goldman, E (1969) *Anarchism and other essays*, New York: Dover.

Goodman, P (1973) *Compulsory Miseducation*, Harmondsworth: Penguin Education Specials.

Guerin, D (1970) *Anarchism – From Theory to Practice*, New York: Monthly Review Press.

Hart, L (1997) 'In Defence of Radical Direct Action: Reflections on Civil Disobedience, Sabotage and Nonviolence' in Purkis, J and Bowen, J (eds) *Twenty-first Century Anarchism: Unorthodox Ideas For a New Millenium*, London: Cassell.

Hern, M (2003) 'The Emergence of Compulsory Schooling and Anarchist Resistance', Unpublished working paper, Vermont: Institute for Social Ecology.

Hobbes, T (2002) *Leviathan*, Salt Lake City: Project Gutenberg.

Illich, I (1977) *Deschooling Society*, Manchester: Penguin Books Ltd.

Johnson, R (1988) '"Really useful knowledge" 1790-1850: memories for education in the 1980's' in Lovett, T (ed) *Radical Approaches to Adult Education: A Reader,* London: Routledge.

Kittur, A, Chi, E, Pendleton, B A, Suh, B and Mytkowicz, T (2007) 'Power of the Few vs. Wisdom of the Crowd: Wikipedia and the Rise of the Bourgeoisie', Proceedings of the 25th Annual ACM Conference on Human Factors in Computing Systems (CHI 2007), San Jose: ACM.

Koetzsch, R. (1997) *The Parents' Guide to Alternatives in Education*, Boston: Shambhala Publications Inc.

Korycinska, Z (1990) Education vs. Schooling: the Case for Home Learning, *The Raven – anarchist quarterly*, Vol.3 No.2 pp.138-144.

Kropotkin, P (1902) *Mutual Aid: A Factor of Evolution*, London: Heinemann.

Kropotkin, P (1910) 'Anarchism', London: Encyclopaedia Britannica, 11th edition.

Kropotkin, P (1912) *Fields, Factories, and Workshops: or Industry Combined with Agriculture and Brain Work with Manual Work*, London, Edinburgh, Dublin and New York: Thomas Nelson and Sons.

Kropotkin, P (1970) 'Law and Authority' in Baldwin, R N (ed) *Kropotkin's Revolutionary Pamphlets*, New York: Dover Publications.

Kuhn, T (1970) *The Structure of Scientific Revolutions*, Chicago: University of Chicago Press.

Lamb, GM (2006) Online Wikipedia is not Britannica - but it's close, *Christian Science Monitor*, January 2006.

Levinson, P (2001) *Digital McLuhan – a guide to the information millennium*, Cornwall: Routledge.

Malatesta, E (1922) Revolution in practice, *Umanità Nova*, No.191.

Malatesta, E (1977) 'Anarchism and Freedom' in Richards, V (ed) *Errico Malatesta: His Life and Ideas*, London: Freedom Press.

Marshall, P (1993) *Demanding the Impossible: A History of Anarchism*, London: Fontana Press.

Martin, I (2006) 'In whose interests? Interrogating the metamorphosis of adult education' in Antikainen, A, Harinen, P and Torres, C A (eds) *In from the margins: Adult Education, Work and Civil Society,* Rotterdam: Sense Publishers.

McLuhan, M (1964) *Understanding Media: The Extensions of Man*, London: Routledge and Kegan Paul.

McLuhan, M (1967) *The medium is the massage*, Harmondsworth: Penguin Press.

Morland, D (1997) 'Anarchism, Human Nature and History: Lessons for the Future' in Purkis, J and Bowen, J (eds) *Twenty-first Century Anarchism: Unorthodox Ideas For a New Millenium*, London: Cassell.

Morris, W (1997) 'Useful Work Versus Useless Toil' in Various Authors *Why Work?*, London: Freedom Press.

Nation Master. (2007) *Population (Latest available) by country*, Sydney: Nation Master Retrieved 22 May 2007 from http://www.nationmaster.com/red/graph/peo_pop-people-population&int=-1&id=EUR&b_ac=1.

Parekh, B (1997) 'Is there a Human Nature?' in Rourner, L S (ed) *Is there a Human Nature?*, Indiana: University of Notre Dame Press.

Piluso, G (1990) 'Nurturing the Radical Spirit', *The Raven – anarchist quarterly*, Vol.4 No.4 pp.333-341.

Plato (1966) *Plato's Republic*, Cambridge: Cambridge University Press.

Prensky, M (2001) 'Digital Natives, Digital Immigrants', *NCB University Press*, Vol.9, No.5, pp.1-6.

Proudhon, P J (2003) *General Idea of the Revolution in the Nineteenth Century*, New York: Dover Publications.

Reagle, J (2005) 'A case of mutual aid: Wikipedia, politeness, and perspective taking', Proceedings of The First International Wikimedia Conference – Wikimania 2005, Wikipedia.

Richards, W (1997) 'Reflections on Full Employment' in Various Authors *Why Work?*, London: Freedom Press.

Rocker, R (2004a) *Anarcho-Syndicalism: Theory and Practice*, Edinburgh: AK Press.

Rocker, R (2004b) *The London Years*, Edinburgh: AK Press.

Rogers, E M (1983) *Diffusion of innovations*, London : Collier Macmillan.

Russell, B (1997) 'In Praise of Idleness' in Various Authors *Why Work?*, London: Freedom Press.

Shakespeare, W (2007) *Romeo and Juliet*, Seattle: eNotes.

Smith, M (1990) 'Kropotkin and Technical Education: an anarchist voice', *The Raven – anarchist quarterly*, Vol.3 No.2 pp.122-138.

Spring, J (1998) *A Primer of Libertarian Education*, Montreal: Black Rose Books.

Stirner, M (1907) *The Ego and His Own*, New York: Tucker Publishers.

Stirner, M (1984) *The False Principle of Our Education or Humanism and Realism*, Colorado Springs: Ralph Myles Publisher, Inc.

Suissa, J (2001) 'Anarchism, Utopias and Philosophy of Education', *Journal of Philosophy of Education*, Vol. 35 No. 4 pp. 627–646.

Suissa, J (2006) *Anarchism and Education – A Philosophical Perspective*, London: Routledge.

Szesnat, H (2006) 'Who knows? Wikipedia, Teaching and Research', To be published in *The SBL Forum*, Retrieved 17 July 2007 from http://www.biblicalhermeneutics.net/wikipedia2006longer.pdf.

Taylor, M (1987) *The possibility of cooperation*, Cambridge: Cambridge University Press.

The OpenNet Initiative. (2007) *Internet Filtering in China in 2004-2005: A Country Study*, Harvard, Toronto, Cambridge and Oxford: OpenNet Initiative.

Thompson, J (1997) (ed) *Words in Edgeways: Radical Learning for Social Change*, Leicester: The National Institute of Adult Continuing Education - England and Wales.

Tolstoy, L (1990) *Government is Violence: essays on anarchism and pacifism*, London: Phoenix Press.

Viégas, F B Wattenberg, M and Kushal, D (2004) 'Studying Cooperation and Conflict between Authors with history flow Visualizations', Proceedings of the Conference on human factors in computing systems, Vienna: CHI.

Vranicki, P (1965) 'On the Problem of Practice', *Praxis*, No.1 pp. 41-48.

Vygotsky, L S (1962) *Thought and Language*, New York: The M.I.T. Press and John Wiley and Sons, Inc.

Ward, C (1990) 'Four Easy Pieces and One Hard One', *The Raven – anarchist quarterly*, Vol.3 No.2 pp.154-186.

Ward, C (2004) *Anarchism – A Very Short Introduction*, New York: Oxford University Press Inc.

Wikipedia (2007a) 'Wikipedia' Retrieved 17 July 2007 from http://en.wikipedia.org/wiki/Wikipedia.

Wikipedia (2007b) 'Statistics' Retrieved 17 July 2007 from http://en.wikipedia.org/wiki/Special:Statistics.

Wikipedia (2007c) 'Modelling Wikipedia's growth' Retrieved 21 July 2007 from http://en.wikipedia.org/wiki/Wikipedia:Modelling_Wikipedia's_growth#External_links.

Wikipedia (2007d) 'List of Wikipedias' Retrieved 17 July 2007 from http://meta.wikimedia.org/wiki/List_of_Wikipedias.

Wikipedia (2007e) 'Wikipedia: Edit war' Retrieved 17 July 2007 from http://en.wikipedia.org/wiki/Wikipedia:Edit_war.

Woodcock, G (1997) 'Tyranny of the Clock' in Various Authors *Why Work?*, London: Freedom Press.

Zerzan, J (2004) 'Why Primitivism?'*, A Journal Of Desire Armed*, No. 56, Fall/Winter.

Zlatic, V Bozicevic, M Stefancic, H Domazet, M (2006) 'Wikipedias: Collaborative web-based encyclopedias as complex networks', *Physical Review E – Statistical, Nonlinear and Soft Matter Physics*, Vol. 74.
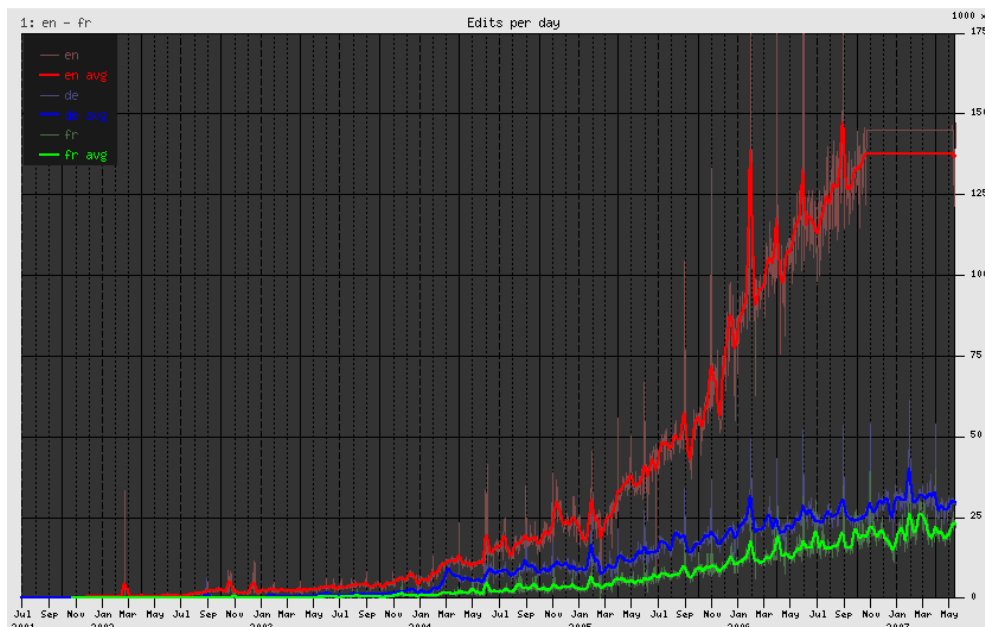
Appendix: Wikipedia statistics

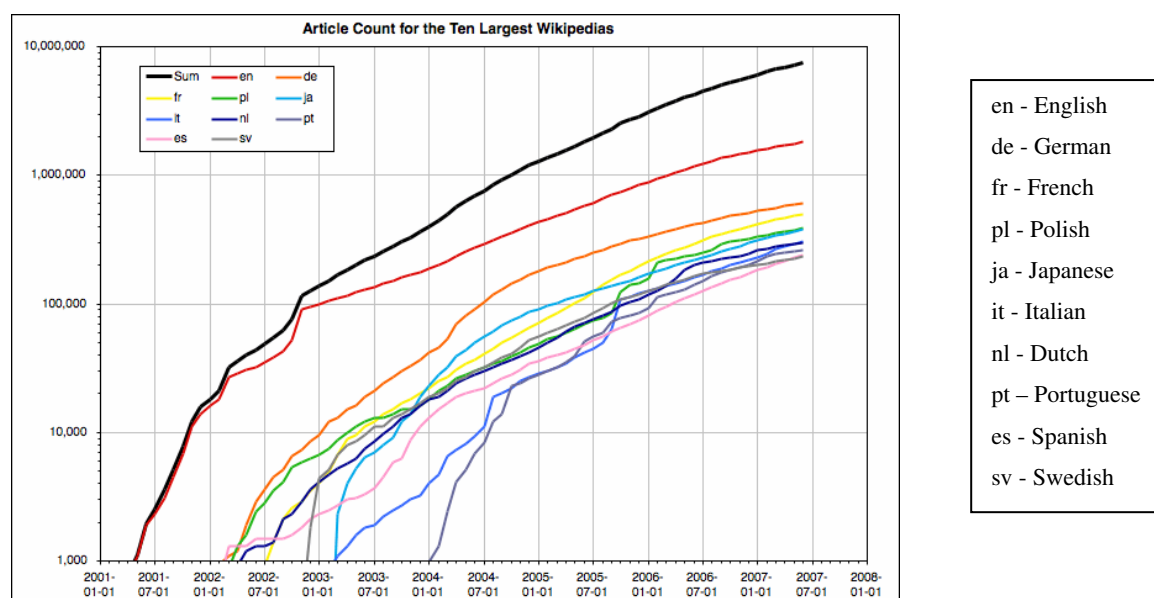Figure 1: Number of active English, German, Japanese and French Wikipedia contributors in 2001-2007
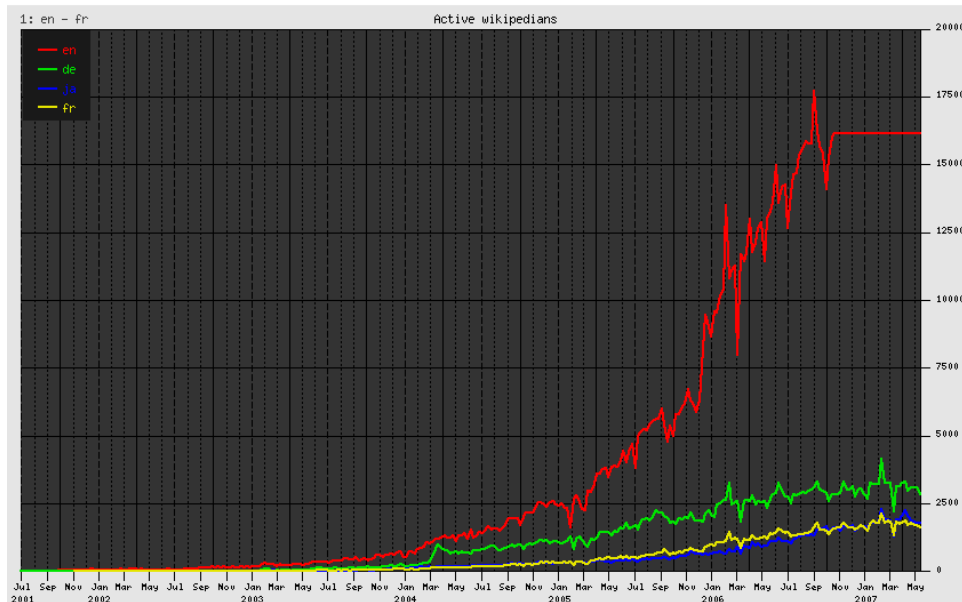
Source: Wikipedia Statistics. Retrieved 21 July 2007 from http://stats.wikimedia.org/EN/PlotsPngWikipediansEditsGt5.htm.

Figure 2: Number of English, German and French Wikipedia edits per day 2001-2007

Source: Wikipedia Statistics. Retrieved 21 July 2007 from http://stats.wikimedia.org/EN/PlotsPngDatabaseEdits.htm

Figure 3: Article count for ten largest Wikipedias 2001-2007

en - English

de - German

fr - French

pl - Polish

ja - Japanese

it - Italian

nl - Dutch

pt – Portuguese

es - Spanish

sv - Swedish

Source: Size   of   Wikipedia.   Retrieved   21   July   2007   from
http://en.wikipedia.org/wiki/Wikipedia:Size_of_Wikipedia