Peter Fleissner

Welfare and Warfare
Contrasting scenarios
of mobile communication

This paper goes really for a mission impossible: It illustrates the potential of communication technologies for institutional change, which can be found in the history of warfare, but could also become important for the future of welfare. Ethical, political and economic arguments are presented to assess existing and potential developments in warfare and welfare aiming at a more convivial and supportive society.

After a sketch of various modes of historical warfare which became possible by - then - new information and communication technologies the paper reflects emerging problems contemporary defence strategies face. The citizens will become reluctant to pay for the high costs of military services if no real results can be seen. From the point of view of opportunity costs the defence budget is challenged by alternative, non-military use. As a long-term solution a war-preventing strategy is proposed which also allows using more financial means for the welfare system. But in fact the situation is not that simple. Even if more financial means would be available the welfare system is entering a state of crisis. Like in warfare information and communication technologies can be used to transform institutions and organisational forms, while the main intention of the welfare system remains in place. Examples are given how to restructure specific functions of the traditional welfare state. They are based on small groups (Targeted Intelligence Networks - TINs) linked to modern communication technology. TINs could give back responsibility to the citizen the welfare state has taken away from her/him in the past, and there is hope to strengthen the bonds of solidarity and reduce societal alienation.

Introduction

Observers of the contemporary social fabric emphasize the increased fragmentation, lack of cohesion and social coldness of Western societies. This can be seen partially as a result of the contradictory and conflicting transitions from mainly *community* based, small scale, informal relations between people towards large scale, abstract, rational and calculated relations to modern *society*.[1] On the level of communication, communities are characterized by *local and direct* face-to-face communication, while modern societies added *global and indirect* (tele-)communication, mediated by state-of the-art-technologies.

The modern state has succeeded in "outsourcing" specific tasks, which in the past were fulfilled by the (extended) family or the local community, to new institutions. The new institutions could provide services more effectively than the family or the local group, and relieved them from excessive strain, but at the other hand they also undermined the feeling of responsibility for the fellow-citizens. It was no longer needed to take care for anybody,

---

[1] See Ferdinand Tönnies, Gemeinschaft und Gesellschaft. Grundbegriffe der reinen Soziologie. Dritte durchges. Aufl. Berlin 1920; Arno Bammé, (ed) Ferdinand Tönnies – Soziologe aus Oldenswort. München, Wien: Profil Verlag 1991; Max Weber, Soziologischen Grundbegriffe. Tübingen: UTB-Taschenbücher 541. Reprint of 1921, 1984, pp. 69-72; Peter Ruben, Gemeinschaft und Gesellschaft – erneut betrachtet. H.v. Schorkowitz (ed) Ethnohistorische Wege und Lehrjahre eines Philosophen. Festschrift für Lawrence Krader zum 75. Geburtstag. Frankfurt a. M.: Peter Lang. 1995, pp. 129-148; Peter Fleissner, Von der Stammesgemeinschaft zur Globalgesellschaft - und zurück? (From tribal community to global society - and back?). In Alfred von Liechtenstein (ed.) Internet und Öffentlichkeit. Wiener Vorlesungen Konversatorien und Studien 13. Wien: WUV Universitätsverlag, 2002, pp. 83-96.

because there were well established institutions available paid out of taxes doing that instead of her/him. The author is asking if this trend of the 20th century in the developed world, now, in the 21st one, could not be reverted to regain solidarity and social cohesion. Higher levels of income, wealth, education and leisure time should support such a transformation.

Two essential functions of the contemporary state are analysed as examples: defence and welfare. Both functions provide essential services to people, with dramatic effects on their well-being (or ill-being); and both eat up considerable shares of public budgets. There is also a principle difference: warfare produces death, while welfare enriches life.

The emergence of new technologies enables us not only to explain social innovations in the past, but also to sketch qualitatively new ways of organising the production and distribution of the respective services. In the field of modern information and communication technologies the essential economic parameter responsible for new developments is *transaction costs*, allowing for triggering and stimulating change in both systems, welfare and warfare.

The past gives examples of the kind, application and effect of the then modern technologies in mobile communications in warfare. A prominent one is the German Blitzkrieg strategy. For the first time in history the newly developed VHF-radio allowed to coordinate mobile units and air force. Blitzkrieg strategy served as a model for several wars waged after WW II. But this strategy seems to come towards its end. Even before September 11 discussions have started how to restructure the defence systems to meet the new challenges of terrorism. One has to deal with a new type of enemy – invisible and acting inside our own territory.

Crisis symptoms can also be seen around the welfare function. During the past decades the traditional Welfare State in Western Europe came more and more under pressure by a variety of stress factors: Apparent are its increasingly high costs and its relative low effectiveness, accompanied by a deterioration of the image of public administration and the emergence of neo-liberal ideas.

Alternative concepts are needed: Neither are large scale institutions able to deal appropriately with rapid social change nor is the individual in a position to cope with the negative aspects of human existence on its own. In addition to the large scale institutions like centralized social security and health care institutions, new group based institutions assisted by electronic communication tools and adequate training opportunities are proposed for various fields of society: "Peer Group Care" in addition to the social care functions of the Welfare State, "Study Circles" to complement traditional schools, "Workers' Health Assurance Groups" to improve the occupational ill-health status, and "Intrapreneurial Groups" against alienation at the workplace are examples to illustrate how the Welfare State could be complemented and transformed instead of being extinguished.

Finally, the paper examines the possibilities of modern communication technology to strengthen participation, integration and solidarity in contemporary societies.

Part 1: Warfare and communication

First steps: indirect communication

While communication was essential in waging wars since ancient times, the kind of communication used limited the battleground and also the room for tactical and strategic manoeuvring. The face-to-face communication of the armies of the past was based on the optical-acoustic presence of actors. Extensions were developed during history: animal or human messengers, optical or acoustic signals were used. The command chains were made up

of individuals. Over centuries the omnipresent commander played an important role. It needed the French Revolution to create a new means of communication: the Optical Telegraph, one of the essential symbolic-technological innovations of the French Revolution, used the semaphore and the telescope. During the Revolutionary period, a French inventor, Claude Chappe (1763-1805), convinced the Deputies to set up a huge network between major cities.[2] It was used for army and national communications till the 1850s. It consisted of stations located in visible distance of about 5 km, equipped with a semaphore to signal and a telescope to monitor the adjacent stations, arranged in four main lines.[3] The lines were state monopoly, private use was not allowed.

Optical telegraphy was successful to speed up mobilization and to coordinate the various armies, in particular in the Napoleon War against Austria in 1809. England reacted with the construction of a chain of semaphores to warn London of a French invasion. It ran from the Admiralty in Whitehall to Portsmouth.

Telegraphic communication

In the period beginning with the Franco-Prussian War 1870-71[4] up to the end of WW I, electric telegraphy was integrated into military structures in parallel to the building up of rail networks in Europe. The combination of these two innovations, the telegraph and the railway, allowed reducing the frictions of mobilization and deployment. Precise planning, timing and coordination of war became possible. Improved stand-by features could be exploited: Armies could wait in longer distance to be activated on telegraphic command. Short term relocation of the armies and rapid reactions became possible, but, on the other hand, reduced the success of any surprise attacks. The extended limits of speed of communication created new bottlenecks, this time of supplies because of limits in transport facilities.

But there were also limits within telegraphy itself: First, orders sent by telegraph had to be short. Second, the wires of the telegraph were subject to tapping. The technically sound solution to encrypt messages was difficult to handle in practice. In effect, long and important orders were not sent by telegraph and were limited to urgent cases. Usually first short messages were sent by wire, followed by longer written texts distributed by courier. In really important cases qualified people were sent instead of messages to explain the situation to the troops in detail.

Leadership could not be performed just by wire. On the higher levels of the hierarchy written commands were requested, often to be signed personally to generate responsibility, which could not be done by telegraph.[5] Another difficulty resulted of the lack of redundancy in the text of telegrams. It increased the risk of spelling errors, erroneous reading, wrong encryption or deciphering, and mistaken interpretation.[6]

While the laconic and staccato style of "cables" was synergetic with everyday military style of communication, it was unacceptable for the public. Messages by telegraph sounded like commands.[7]

---

[2] Patrice Flichy, Tele. Geschichte der modernen Kommunikationsmedien. Frankfurt/New York: Campus 1994.

[3] They led to Lille with an extension to Amsterdam; to Strasbourg via Metz, with an extension to Mainz; to Brest; to Dijon with an extension to Venice. All four started in Paris, but they were not connected in the centre. (Stefan Kaufmann, Kommunikationstechnik und Kriegführung 1815-1945 – Stufen telemedialer Rüstung. München: Wilhelm Fink Verlag, 1996, p. 53)

[4] http://www.onwar.com/aced/nation/fax/france/ffranceprussia1870.htm; there were about 450.000 people in the battlefields.

[5] Stefan Kaufmann, Kommunikationstechnik und Kriegführung 1815-1945 – Stufen telemedialer Rüstung. München: Wilhelm Fink Verlag, 1996. p. 99.

[6] Kaufmann, op. cit., p. 103, gives talking examples in German: "einschliessen" (encircle) was erroneously read as "einschiessen" (to shoot at somebody by trial and error), "heute Nacht angreifen" (attack tonight) was read as "heute nicht angreifen" (don't attack).

[7] In this period the Germans coined a special term to characterize the command like telegraphic style: "Telegrammstil"

In general military communication was highly regulated by bureaucracy. Because of the higher levels of centralisation necessary by telegraphic communication social control increased and set limits to autonomy, flexibility and to the self-determination of actions and limits of lower ranks. This increased conflict between centralized control and the individual needs of the battlefield lead to criticism. As in the army was a strong belief that individual decision making is more efficient, requests to empower the individual came to the surface. The individual should no longer be triggered only by commands of the superior, but also by local needs.[8] It should be enabled to act independently whenever needed and when there is no command available from the top ranks. Instead of mechanical links between the higher and lower ranks a mental link of common understanding was needed, but this had to be developed by more education and training in the various disciplines.

Since the Franco-Prussian War new means of communications and transportation were tested and developed, also during WW I. At certain occasions, messenger dogs and carrier pigeons transported messages. Human messengers not only used the horse, but also bicycles, motorcycles and motor vehicles as transporting tools. Captive balloons and airships performed surveillance functions. Airplanes, tanks, mobile guns and submarines were used in high numbers, but also people.[9] It became evident that communication and command was no longer possible on the basis of face-to-face interaction.

The German plan to conquer France in WW I (Schlieffenplan[10]) was rooted in the high mobility of troops on trains, following a predefined central concept controlled and pre-planned by wired telegraphy. But the Schlieffen plan failed, because the overall concept was too rigid and not flexible enough to meet the modified needs of the battlefield, which was to a high degree related to the gaps in the communication structure. There was only one mobile telegraphy station at the headquarters with a maximal range of 300km.[11] Telegraphy battalions were understaffed. The length and capacity of wired lines was insufficient (max. 160 km). There was a lack of quality, of reliability, of spare cable and technical supplies. The lines were constantly being damaged by shell fire and movement of troops. Often they were destroyed by the enemy, but also – unintentionally - by own cavalry. There was also a lack of integration of telegraphy into the military command structures, a lack of organisational regulation of telegraphic communication, and, last not least, a lack of training. The more the Germans operated outside their country in hostile territory, the more difficult it became to keep up the mobility of their troops, because they were not able to control the railways and communication structures of the opponent.

The German hopes of a swift and decisive victory had been frustrated. Even if the German Army had not been beaten, its retreat and the building of trenches between the North Sea to the Swiss Frontier ended all hope of a short war. The war became more and more total, and exhausted not only human beings, but also the complete economic resources of the countries engaged. A new era began: the positional war, which was associated with the era of military telephony.

---

[8] "Haltungsdisziplin" wird durch "Funktionsdisziplin" abgelöst (Kaufmann, *op. cit.*, p.122)

[9] WW I mobilized about 4 million soldiers.

[10] Count Alfred von Schlieffen, who became Chief of the Great General Staff in 1891, submitted his plan in 1905, inspired by Helmuth Carl Bernhard, Count von Moltke's (1800-1891) statement: "Don't build fortresses - build railways". The plan was adopted by Helmuth von Moltke (1848-1916), and further modified up to its implementation in 1914. Rapid attacks should take the enemy by surprise; a short war was expected which would also lower the risks of internal revolutions and upheavals against the leaders.

[11] Other stations had even smaller ranges, 100-250km for armies; 50-80km for the cavalry.

Wired telephony

During the positional war of WW I wired local networks of telephones were added to the telegraphic lines. Telephones were used by various groups: of heavy artillery/guns, of observers and artillery;[12] of machine guns, mine-layers, and light artillery; and of air defence systems. Telephones were less heavy than telegraphs and more user friendly, but without the possibility of written documentation. In the beginning the telephone was used like a telegraph (short spoken sentences, one-way communication). The advantage of interactivity (two-way communication) was discovered only slowly. Like the Internet the telephone net had a topology of multiple connections. By that it was possible to reach the communication partner via different lines – an important advantage in case one line was destroyed.

Over time, the construction and keeping up of wired connections became essential for the functioning of the headquarters.[13] Telephony became so important that the higher ranks were bound to existing telephone links and had to stay within their range.

The telephone was used extensively: In 1918 the demand of means of communication of one army was estimated as 11 goods wagons per day. The total length of German telephone lines in WW I reached about 920.000km, and a total of 6 million km cable was laid.[14]

But there were also deficiencies: It was impossible to establish horizontal links among different arms of the service. Each branch (army, navy and air force) built up its own standards and norms and used incompatible devices.[15] Frequently the signals interfered with each other, because they used one wire systems and the soil as return line.

And there were also bottlenecks in the reliable communication between the air force and the infantry: Individual soldiers e.g. spread white cloth in bomb craters to signal the need for air intervention, while message cartridges were dropped from the aeroplanes. These methods were not really reliable; also the enemy could take advantage.

Wireless communication and Blitzkrieg

The above limits favoured complementary means of communication, in particular wireless telegraphy and telephony. Going wireless was the only long distance way to communicate effectively with airships, aeroplanes, mobile land vehicles, ships and submarines.

The beginning of radio was rather heavy – literally speaking. In 1914 a German "heavy mobile radio station" consisted of 2 cavalry officers, 34 other staff, 30 horses, 3 vessels, 1 motor vehicle, and the station itself had a weight of 1.5 tons.

It took the Germans twenty more years to create lightweight and mobile devices for wireless communication. In 1934, General Erich Fellgiebel, the commander of the German Army Signal Corps[16], started the development of radio receivers for tanks. He decided to develop devices for very high frequencies – hitherto unused for communication purposes. In general, it was assumed that the signals of electro-magnetic waves with wavelengths below 10 meters propagate in straight line only within the limits of direct visibility and are therefore of no use in the battle field. It took many experiments to proof that electromagnetic waves of very high frequency could be used for communication purposes on short distance (3-4km)

---

[12] Before, artillerists were informed by flare pistols (Leuchtpistole) or tracer bullets (Leuchtmunition) (Kaufmann p. 175)

[13] Kaufmann, op. cit., p. 247.

[14] Kaufmann, op. cit., p. 211.

[15] This situation led to the standardization of telephones in Germany in the early 1920ies.

[16] In 1944, Fellgiebel became a member of the resistance group against Hitler of Colonel (Oberst) Stauffenberg. With him he worked out a plan to sever as many of the Wolf's Lair's communication lines as possible in order to thwart any counter-orders from being issued by the regime. He fulfilled his task to the best of his ability, but Hitler's survival doomed the plan. Fellgiebel was arrested, sentenced to death and executed September 4.

even beyond of optical sight.[17] The development and improvement of electronic tubes allowed the parallel action of many radio transmitters without interference. By shorter wavelengths smaller devices and antennas (its length is usually one quarter of the wavelength) became possible. Already in 1934 the Germans decided to add VHF-radio receivers to each tank. The tanks of commanders were equipped with transmitters. The radio transmitters of commanders of smaller groups had a range of 3-4 km, while the regimental commanders had radio transmitters with a range of 30-40 km in motion, and of 120km in stationary mode with a larger antenna. Probably due to the traditional one-way command structure in the early stages of VHF radio the tanks did not have any horizontal links between them nor any feedback ability to the commander.

Fellgiebel cooperated closely with General Heinz Guderian, who in 1937 published a book "Achtung - Panzer!"[18], where he tried to influence the leaders of the *Wehrmacht* to employ its armoured forces in massed units supported by mobile, mechanized infantry. "*This was in contrast to the prevailing views of the day, including those held by France and England. The traditional way of employing tanks at that time was to use them as infantry support vehicles, or mobile gun platforms. This is how they had been employed since their introduction in WWI. According to Guderian, the tanks would be massed in formations supported by mobile artillery, and with aircraft in close ground support roles to act as "flying artillery" to enable the ground forces to achieve breakthroughs and continue the rapid advance.*" A precondition to apply such a strategy was Guderian's insistence on putting a VHF radio receiver in every tank, and a receiver/transmitter in every command tank, while the other European nations still used short wave radio. Even in 1940 the Allied tanks communicated via optical signals with each other. With VHF radio communication, "*German forces were much more adept at operating in chaotic environments where other armoured forces were lost in confusion. Guderian was also among the first to operate from a command car equipped with several radios in order to allow his subordinates to operate faster and further than an army had ever operated before*".[19]

Guderian and later General Rommel understood the tanks of WW II as a modern version of armoured cavalry. And there are really similarities: Like the horse a tank is not bound to railway-tracks or roads; it is suitable for cross-country driving. The only weak point of the traditional tanks of WW I was the control of their movements by the commander and their coordinated action following tactical considerations. By fitting the tanks with radio receivers/transmitters they solved the problem, and immediately they brought the commander, who had left it under the heavy machine-gun fire of the trench war back to the battlefield. The return of the commander increased the power and the speed of attacks. Guderian and Rommel liked to lead the Panzer squad directly, either from a command tank or from an accompanying aeroplane. Having the commanders directly at the battlefield had positive effects on the efficiency of communication. The physical and emotional distance between commanders and (called "salon-generals") and their troops in WW I shrank considerably in WW II, and consequently the efficiency and flexibility of the troops increased, also because the local commanders equipped with a special radio could directly reach the Supreme Command on other frequencies. In one of the tanks (or in some cases on board of a reconnaissance aeroplane) the commander gave his directions to his Panzer Unit, and at the same moment he was connected to the headquarters and could discuss the change or improvement of strategies to be applied. By this system the strategic, tactical and the operational levels could be integrated and allowed a more flexible response to the contingencies of the battlefield.

---

[17] According to http://www.acmi.net.au/AIC/PHONO_KITTLER_3.html#fn0 (5 May 2004) it was the merit of Colonel Gimmler of Army Ordnance

[18] Full title: Heinz Guderian, Achtung - Panzer! Die Entwicklung der Panzerwaffe, ihre Kampftaktik und ihre operativen Möglichkeiten. Stuttgart 1937.

[19] http://home.sandiego.edu/~cshimp/guderian.htm (5 May 2004)

While the tanks were very well apt to break through the lines of the opponent, it was not possible for them to keep control of the conquered territory. Infantry was needed to complement the tanks without slowing their attacks down. Infantry and artillery got motorized and were integrated into the tank divisions, coordinated by radio. To destroy the communication structures of the enemy, his supply centres and headquarters, also fighter planes, bombers and dive bombers cooperated with the tanks via radio.

When the German troops attacked the Allies in 1940, their number of soldiers and equipment was considerably less than the ones of the enemy. The German strategy relied completely on the surprise effect of the coordinated attack of tanks, air force, motorized artillery and infantry. The Germans even accepted open flanks where they might be attacked by the enemy. They were convinced that the speed of their advance would overpower and paralyze the allied forces. In stark contrast to the French and Soviets, the Germans provided both the training and equipment necessary to meet the radio needs of their armoured troops.

The German victory over Poland in 1939 illustrated how intermediate communication between land and air units could more effectively defeat an enemy. However, it was the success of the panzer troops in France (and later in Russia) that showed how indispensable radio had become in armoured warfare. Although the assessment in the German military headquarters was wide spread that the concentration of all the mobile forces into a small line to advance across the Ardennes is "adventurous", the German troops reached Sedan after four days[20] and after 12 more days the Canal coast. They were able to encircle 1.5 million soldiers within a circumference movement of 400 km.[21] *„Detailed accounts of the 1940 battle of France illustrate time and again how the French army lacked the proper command and control techniques. Despite having a numerically superior tank force, the French were never able to mount a concentrated defence or a major counter attack. Their battle plans were issued verbally before combat and units would have to stop and regroup to receive updated objectives … The invasion of Russia in 1941 again pitted the Germans against an opponent with inadequate command and control capacity. In the case of the Soviets, however, it was mostly a lack of proper training that left them paralysed. When the Germans encountered the radio equipped T-34 tank, no Wehrmacht tank could defeat it at normal combat ranges. Heavy artillery, 88rnrn anti-aircraft guns or attacks from the side or rear were needed to knock out a T-34. The Soviets were never able to press this advantage however. Their armoured commanders lacked the ability and freedom to make rapid decisions. While local counter attacks by T-34s were often successful, they were not maintainable without fresh combat orders or co-ordination with other units. By the time further counter-attack was approved and organised, a German defence would usually be prepared. Thus, while most Soviet armour had basic radio equipment, the training and infrastructure necessary to properly utilise this radio equipment was not available".*[22]

This German kind of warfare coined the term "Blitzkrieg"[23], which is now understood as the coordinated and combined action of armour, air power, artillery, infantry and naval forces, with radio as the perfect medium for this co-ordination.

---

[20] It is worth mentioning that in the first phase of the offensive the largest traffic jam of vehicles in Europe was created. Panzergruppe Kleist with its 41.120 vehicles could only use 4 roads to advance towards France. This created at first a queue of a length of 200 km (Kaufmann, op. cit., p. 318)

[21] to compare with Sedan 1870: 120.000 soldiers within a circumference of 9km

[22] http://www.armyradio.co.uk/publish/Articles/William_Howard_German/German_Tank_Radios.htm (5 May 2004)

[23] Manuel De Landa, War in the Age of Intelligent Machines. New York: ZONE BOOKS (fifth edition), 2003.

Blitzkrieg continued

The strategy of Blitzkrieg was copied by Israel[24] against Egypt, by the United States in Afghanistan[25] (October till December 2001) in the Gulf War and in Iraq[26], each of them always waged on the most modern level of arms technology combined with computer and communication technologies.

But as we can see from the historical examples, finally it did not pay. The combined efforts of the Allies forced Hitler's Germany to surrender and the deployment of the most powerful new technology, the atomic bomb, on Japan, ended WW II. Even where the military strategy of Blitzkrieg was successful in the short run, in the follow-up of the wars it became clear that new problems were created – some fear that they are worse than before. The Middle East situation if far from stable, no Palestinian state could be established. By their recent wars, the United States and their allies neither succeeded with their intended aims nor could they establish democratic societies. The U.S and their allies seem to win the wars, but loose the peace.

Ongoing Developments

While the old military and economic rival of the West, the socialist system, had imploded more or less peacefully, immediately after this brake-down new enemies of Western Civilization were constructed, in particular by the United States and their allies. Although there are no "rogue states" anymore[27], in 2000 US Secretary of State Madeleine Albright put up instead the list of "states of concern" of supporting terrorism (North Korea Cuba, Iran, Iraq, Libya[28], Syria, and Sudan).

11 September 2001 marked a new era, the era of international terrorism. The Bush administration identified the "axis of evil" (Iraq, Iran, and North Korea) as its true homelands. But even after the Gulf War, the war in Afghanistan and the Iraq War the terrorists are still alive, mobile, communicative and able to strike again (as we have seen in Madrid on 11 March 2004). When allied western soldiers humiliated, tortured and killed their prisoners in Iraq, the rage against the "liberation army" increased.

While we are already more or less used to the terror attacks linked to regional conflicts, like to Israel, the Basque Country or Northern Ireland, to self-aggression of fundamental religious groups and to neo-Nazi terror, the beginning of this century shows terror of a larger dimension. The new type of terrorism operates on an international dimension, and is able to mobilize more power of destruction than ever. As the airplanes in New York and Washington have demonstrated, the terrorists are able to use technical tools and weaponry of their enemy and turn them around for their own purposes; ironically enough, in some cases they received

---

[24] the Six-Day War against Egypt, Jordan, and Syria in 1967

[25] Secretary of Defense Donald Rumsfeld used the term "Blitzkrieg" himself to describe the U.S. military strategy in Afghanistan (Financial Times, 1 February 2002). In a February 4 interview with Jim Lehrer on PBS, Rumsfeld went a little further. "When the Germans transformed their armed forces into the blitzkrieg, they transformed only about 5 to 10 percent of their force. Everything else was the same, but they transformed the way they used it--the connectivity between aircraft and forces on the ground, the concentration of it in a specific portion of the line. One would not want to transform 100 percent of your forces. You only need to transform a portion." Rumsfeld raised this to argue that President Bush's wild increase of $50 billion for the military budget "reflects the priorities that are appropriate to our times." (Sarah Flounders in Workers World on 21 February 2002 at http://www.workers.org/ww/2002/caspian0221.php; 5 May 2004)

[26] "Inspired by the Blitzkrieg, the War on Iraq, is planned around a strategy known as 'Shock and Awe' in which between 300 and 400 cruise missiles would fall on Iraq each day for two consecutive days. It would be more than twice the number of missiles launched during the entire 40 days of the 1991 Gulf War." Alfred Lambremont Webre in globalresearch on 20 March 2003 at http://globalresearch.ca/articles/WEB303A.html; 5 May 2004)

[27] The Washington Post reported that references to "rogue state" or "rogue nation" in the Congressional Record increased from three during the 1991-92 session, to 12 in 1993-94, 58 in 1995-96 and 75 in 1997-98.

[28] In the first months of 2004 Libya was put off the list.

even training and financial support from the culture they wanted to destroy. The bombs in Madrid were activated by the alarm features of standard mobile phones.

Although by the Bush administration and the media have seen 11 September as a surprise, it is worth noting that already long before, in 1989, one could read in "The Futurist", the Journal of the World Future Society:

"There can be no doubt that terrorism will continue into the next century. It is the primary way in which the weak and disenfranchised can ensure that their voices will be heard and that governments will feel the pressure to meet their demands, even when they are counter to the will of the majority. It is a war of psychology and perception. The terrorist's message to the targeted government is, "No matter how big and powerful you are, no matter how small we are, we can hurt you if you don't do what we want." Bombing, assassination, and kidnapping will continue because they carry the terrorist message effectively".[29]

Netwar

Under the impression of changed framework conditions military think tanks in the US look for more appropriate strategies. The outdated cold war strategies are replaced by "Power Projection" where military power can rapidly be implemented in any selected crisis area of the world. It is discussed how many parallel wars can be waged. Mobility is no longer only one factor – on the contrary – everything is based on mobility. Therefore heavy units, difficult to move, should be replaced by light and flexible ones[30]. To coordinate the units, information retrieval becomes essential, in two ways. On the one hand commanders have to get the up to date overall picture. On the operative level they should have access to locally relevant knowledge, and also to be able to coordinate their action within their own group and with others. Information flow has to go both ways, bottom-up and top down. Thus mobile communication is no longer one isolated feature of military strategies, but has become the essential basis of warfare – sine qua non.

Acknowledging the increased importance of information and computers, RAND's consultant John Arquilla from the Naval Postgraduate School in Monterey, California, and David Ronfeldt, senior political scientist in the RAND International Studies Group coined new types of war, "netwar" and "cyberwar".

"Netwar refers to information-related conflict at a grand level between nations or societies. It means trying to disrupt, damage, or modify what a target population knows or thinks it knows about itself and the world around it. A netwar may focus on public or elite opinion, or both. It may involve public diplomacy measures, propaganda and psychological campaigns, political and cultural subversion, deception of or interference with local media, infiltration of computer networks and databases, and efforts to promote dissident or opposition movements across computer networks."

Netwar does not mean a war in traditional terms, but is understood as a multi-purpose means of deterrence. It should replace the nuclear threat which could lead to total mutual overkill. As defined above, this concept can be applied not only to military structures, but also to intelligence activities of trans-national companies and, eventually, NGOs.

---

[29] Marvin J. Cetron, The Growing Threat of Terrorism. The Futurist 1989, July-August; republished at http://www.wfs.org/cetron89.htm (6 May 2004)

[30] Ingo Ruhmann, Kriege der Zukunft: Netwar and Cyberwar (http://www.uni-muenster.de/PeaCon/wuf/wf-94/9430401m.htm 8 May 2004)

Cyberwar

On the contrary to netwar, cyberwar is reserved for less civic use only:

„Cyberwar refers to conducting, and preparing to conduct, military operations according to information-related principles. It means disrupting, if not destroying, information and communication systems, broadly defined to include even military culture, on which an adversary relies in order to know itself: who it is, where it is, what it can do when, why it is fighting, which threats to counter first, and so forth... It means turning the "balance of information and knowledge" in one's favor, especially if the balance of forces is not. ... As an innovation in warfare, we anticipate that cyberwar may be to the twenty first century what blitzkrieg was to the twentieth century. ".[31]

Contrary to the dreams of technocrats of the automated battlefield, "cyberwar is about organisation as much as technology. It implies new man-machine interfaces that amplify man's capabilities, not a separation of man and machine".[32] It is seen as a comprehensive strategy, not only covering new weapon systems and their coordination, but also taking into account political and psychological aspects of warfare important for accompanying war in the mass media.

Swarming

More recently, Arquilla and Ronfeldt modernized their concepts of network and cyberwar by creating a new general and comprehensive fighting doctrine. They call it "swarming". For the physical substrate they coined the term "BattleSwarm". Although in hindsight they see the Gulf War as having provided "the most marvellous image of the U.S. military mounting high-tech, fast-moving, coordinated strikes, applying its innovative AirLand Battle doctrine to defeat an enemy's regular military formations", at the same moment they note critically that "this war may mark the end of an era more than the start of a new one for U.S. doctrine and strategy in the information age".[33]

Swarming itself is not new; the cue is taken from nature, from ants and bees. Bees use their "humming" to instinctively move in coordinated synchronous behaviour in pursuit of food. And they use "blanketing" tactics when foraging outside the hive, striking at their enemies from all direction. Ants, on the other hand, employ swarming in immediate defence of the hive or also in extended territorial wars against other ants. They show already "sustainable pulsing" of forces - another essential characteristic of the BattleSwarm as they - unlike bees who die after they have stung - can attack repeatedly.

Deviating from nature, human beings have to use electronic technology to move in similar patterns like in nature. Mobile communication tools allow them to act effectively in the theatres of war. They are needed to inform the members of the swarm and to coordinate their action. Also they provide the logistics to distinguish between own and hostile forces, and to give access to mass munitions, transport and manpower, all of that no longer stationary, but almost constantly on the move.

But swarming is not restricted to traditional warfare, nor to civic protest which can also be organised in swarms.[34] Professor Arquilla, in the meantime Associate Professor at the United States Naval Postgraduate School, indicated recently that even *"terrorist groups like Al Qaeda are utilizing similar tactics...Al Qaeda operatives converged on four separate targets*

---

[31] John Arquilla, and David Ronfeldt, Cyberwar Is Coming! In Comparative Strategy, Volume 12, Nr. 2, 1993, p. 141-165. (http://gopher.well.com:70/0/Military/cyberwar 8 May 2004)

[32] ibid.

[33] John Arquilla and David Ronfeldt, Swarming and the Future of Conflict. RAND National Defense Research Institute, 2000, DB-311-OSD, p. 1

[34] Arquilla and Ronfeldt 2000, op. cit., p. 25-26

simultaneously on September 11, 2001 when it swarmed on the World Trade Center Towers, the Pentagon and presumably the White House...Al Qaeda likely used mobile communications to coordinate concurrent recent attacks in Kenya, Yemen and Kuwait...the ability to plan separate attacks at different points on the globe at or around the same time is a huge strategic advantage, one that is only augmented by an age of mobile communications....mobile communications have taken swarm warfare to a whole new level when an Al Qaeda agent who is in hiding can coordinate, from a cave in Afghanistan or a ship container, simultaneous attacks at separate points around the globe".[35]

Criticism

In experts' circles the swarming doctrine is not accepted unanimously. Arquilla and Ronfeldt do have their critics who believe still in traditional warfare: *"They say there is no replacement for the strategic advantage traditional weapons provide. Thomas Henriksen at the Hoover Institution at Stanford University calls swarming 'an old idea in a new wine bottle.' He says big-ticket weaponry is necessary for complete success in the war on terrorism, and that a battle on terrorism 'has to have tanks'"*.[36]

From the point of view of "old Europe", both, the traditional concept of strengthening and modernizing the big-ticket weaponry, and swarming, lack the essential feature of preventing wars and terrorist attacks in the future. The concepts described above are based on military strength, act only on the surface and on symptoms, eat up huge amounts of national resources (and even people), and do not touch the core of the problem (I will come back to this question later on). If the war against terrorism is backed by extended intelligence and media war, it creates also the danger that pervasive surveillance can undermine human rights and civil liberties inside their own country.

It is an illusion to get rid of international terrorism by a preventive strike against a whole country like Iraq.

Voices of the Founding Fathers

Also it represents an essential deviation from the historical mission of the United States as expressed by the Founding Fathers two centuries ago. "Of all the enemies to public liberty, war is, perhaps, the most to be dreaded", wrote James Madison, the fourth President of the United States (1809-1817), "because it comprises and develops the germ of every other." "No nation could preserve its freedom in the midst of continual warfare," he said. This is why, wrote John Quincy Adams, the sixth President (1825-1829) that "America goes not abroad in search of monsters to destroy." That's also why the founders tried to make it very difficult for the U.S. government to go to war, giving the president no autonomous power to do so-- restrictions routinely ignored today.[37] They have had in mind a non-interventionist foreign policy, and, as Jefferson, the third President (1801-1809) expressed it in his first inaugural address in 1801, they grasped for "peace, commerce, and honest friendship with all nations -- entangling alliances with none."[38] Peace and free trade: a public-policy combination all but absent in current debate.

Guided by the statements of the Founding Fathers of the United States of America, what could be done instead? Although it is not yet the understanding of the mainstream, there are

---

[35] http://www.acfnewsource.org/science/swarm_war.html (8 May 2004)

[36] ibid., p. 2

[37] http://www.mises.org/fullstory.asp?control=939 (10 May 2004)

[38] http://www.house.gov/paul/tst/tst2002/tst041502.htm (8 May 2004)

already some researchers who study the possibility of non-violent actions, of dialogue.[39] In fact, even the U.S. government already "has developed innovative approaches to defend national security, including negotiating with state sponsors of terrorism with the threat of force for noncompliance, isolating the violent actors by offering financial rewards for assistance in combating terror, and offering and employing international intelligence assistance. Each of these approaches, whether it results in a reward or punishment, involves some form of negotiation with the terrorists or those who support them to gain the information necessary to disrupt terrorist networks and convict those responsible." In my opinion, one should even go for the next step, to start a dialogue not only with the potential supporters of terrorists, but also directly with them and their organisational representatives. Of course, it will be a long and thorny road to arrive at the first results, with many backlashes and difficulties to overcome. But in the long run, it will pay.

The opportunity cost of war

Since the work of the Austrian economist Friedrich von Wieser, opportunity cost has been seen as one of the essential concepts of economic theory. Opportunity cost is the hidden cost of any and every economic decision. Ignoring opportunity cost can make certain economic decisions appear to have no cost at all.[40] One should keep in mind that the cost of war can be compared with other opportunities to spend the money. It depends on the preferences of the governing system for what purpose.

Let us first give some estimates of the cost of military systems.[41] The following table shows the seven countries with the highest military budgets of the world in 2002[42] and their Gross Domestic Product (GDP) in current US Dollars.[43] The last column gives the percentage share of the military budget on GDP.

Country	Military Budget	GDP	Percentage share
	Billions of Dollars	Billions of Dollars	%
United States	399,1	10383,100	3,84
Russian Fed. (2001)	65,0	346,520	18,76
China (2001)	47,0	1266,052	3,71
Japan	42,6	3993,433	1,07
UK	38,4	1566,283	2,45
France	29,5	1431,278	2,06
Germany	24,9	1984,095	1,25

---

[39] e.g. Negotiating with Terrorists, Vol. 8, no. 3, 2003, International Negotiation - A Journal of Theory and Practice

[40] see http://en.wikipedia.org/wiki/Opportunity_cost (10 May 2004)

[41] The cost of the Iraq War is estimated at more than 100 Billion Dollars. (see http://www.costofwar.com/ 16 May 2004)

[42] see http://www.infoplease.com/ipa/A0904504.html (10 May 2004); Jude McCulloch, Counter-terrorism, human security and globalisation - from welfare to warfare state? Current Issues in Criminal Justice, vol. 14, no. 3, pp. 283-298, University of Sydney, Sydney, 2003. Paper originally presented at the conference "The War on Terrorism: Democracy under Challenge", hosted by the Law School of Virginia University, Melbourne, August 2002. See
http://www.edgehill.ac.uk/Faculties/HMSAS/cscsj/chesterconf/pdfs/3_Chconfweb.pdf (10 May 2004)

[43] see http://devdata.worldbank.org/data-query/ (10 May 2004)

At this point it might be worthwhile to recall President Dwight D. Eisenhower's statement on April 16, 1953, when he addressed the American Society of Newspaper Editors in his "Chance for Peace" speech:

"Every gun that is made, every warship launched, every rocket fired, signifies in the final sense a theft from those who hunger and are not fed, those who are cold and are not clothed."

And from this reference we can directly arrive at the question what the various countries could do with the financial resources if they would not spend them for military purposes. Let us be sober: The figures do not support the hope that with the financial resources set aside for military purposes we could generously finance all the welfare needs of the citizens. The table above shows that there are considerable resources spent on defence, but compared with the costs of European welfare states only Russia could provide an essential contribution of nearly 19% of the GDP. One can see that in current dollar values the U.S. military budget has the same order of magnitude like the sum of the military budgets of the Russian Federation, China, Japan, UK and France together.

Part 2: Beat Swords into ploughshares

Under the impression of the high figures of military expenditure it is suggestive to get rid of war and to look for other ways of spending the money as the prophet Isaiah has it already expressed more than 2500 years ago:

"They shall beat their swords into ploughshares, and their spears into pruning-hooks; nation shall not lift up sword against nation, neither shall they learn war any more".

Here comes a more modern variant:

"As military spending reaches a new level of obscenity, 34.6 million Americans live in poverty according to a new report released by the Census Bureau. Some 43 million Americans are without health insurance. Our education and environmental needs go wanting because every year one-half of our federal income tax dollars go to the military, leaving scant funding for our social needs. This excludes the trust funds of Social Security and Medicare.

On the world level, military spending is nearly $1 trillion per year while half of humanity lives in poverty. An average of 24,000 people die from hunger every day, and 30,000 children die every day from preventable causes".[44]

The modern welfare state is one of the answers the labour movement has found to improve the living and working conditions of the masses. It is one of the most important achievements of the 20th century. Let me quote a witness above suspicion, Michel Camdessus, the former director of the International Monetary Fund. He said:

"The twentieth century has seen countless achievements and changes. As historians look back on this period, two developments are likely to stand out as being among the most definitive of our time. One, deepening as the century progressed, was the acceptance by many, indeed most, nation states of an obligation toward their citizens to provide a certain minimum level of well-being. In industrial economies, especially in Europe, this has led to the emergence of the welfare state. The other development has been rather more recent, especially in the last two decades of this century. It is globalization".[45]

But, as the following table shows, the welfare state is quite costly. If we include the provisions for the main welfare functions, for retirement and old age, sickness, accident compensation, health insurance and delivery, education, and full employment/unemployment

---

[44] see http://www.worldcitizens.org/wisdomfolly.html (11 May 20004)

[45] Worldwide Crisis in the Welfare State: What next in the Context of Globalization? Address by Michel Camdessus, Managing Director of the IMF, at a seminar organized by Observatoire Chrétien des Réalités Economiques, Paris, France, October 15, 1998; see http://www.imf.org/external/np/speeches/1998/101598.htm (14 May 2004)

compensation, we can see that in the average for the coming decades the EU welfare states eat up about 20 to 40 percent of their GDP (see table below).[46]

In most European countries these expenditures represent the most important share of public spending. Although the European welfare state is given such eminent importance we cannot be sure for the future that this achievement will survive the coming decades.

Policy issue of the welfare state	expenditure share of GDP	Timing and observations
Pensions and old age	5 to 13%	Could grow by 3 to 4% in 30 years.
Health Care	7-11%	Is likely to continue growing. The motor of change will be the ageing society. It could add as much as 10% to the health bill. Developments in the life science could further increase life expectations.
Education	5-8%	Growth likely. However it might not be in the traditional educational system.
Unemployment support	3-5%	Urgent expenditure now. Different in each country. Might shrink as unemployment is reduced.
Active employment policy	0.4 to 3.2%	It will be necessary to increase this type of support if countries want to reduce permanent unemployment
Total Range	**20.4 - 40.2%**	

Problems of the welfare state

In the last years we can hear more and more criticism about the concept of the traditional welfare state. Politicians and social scientists speak about a crisis. What factors support such assessment?

The demographic situation in Europe moves the welfare state into financial difficulties for a twofold reason: on the average the reproduction rate is declining – in the accession countries more than in the EU15. Many countries have adopted pay-as-you-go systems for funding pensions. They depend on the contributions by the active blue and white collar workers. With these systems, societies are charging future generations with much higher liabilities - and taxes to finance them - or with reduced benefits. The problem becomes bigger, the more the number of employees is relatively shrinking. On the other hand the number of retired people is increasing by the very aging of the labour force. The consequence: the burden per head to provide means for the retired is increasing. Also the longevity creates new problems: Medical treatment of the elderly is more costly compared with the younger age groups. In addition to that we experience a further increase of the costs for technical devices and medical services than the average inflation rate.

If at the same time economic growth rates are no longer that big as in former decades, the cost increase leads to enormous financial problems for the public budgets. Even if there are still growing wages, which in principle could be associated with higher individual contributions to the social security system, to keep the individual contribution to the costs within a reasonable range, in many countries upper limits are set to the contributions. Incomes beyond this threshold do not lead to a higher financial input to the social security system. To channel a fraction of the wage increase into the social security system, some countries have

---

[46] see The IPTS Futures Project, http://futures.jrc.es/reports/SocietalBillDEC99GF.pdf (14 May 2004) by Gustavo Fahrenkrog and Luis Delgado, The Societal Bill: Financing Social Protection and a Sustainable Environment.

increased the threshold and/or the share which remains to be paid by the patient individually, and simultaneously they could reduce the contribution by the public.

Many economic systems in Europe experience another ambiguous trend: the salaries of the employees of the higher social strata are increasing, and at the same time also the unemployment rate: thus one can see a growing polarization of incomes. Higher unemployment rates do not foster solidarity with other people, and therefore the inclination to continue or even increase spending for the welfare states is strongly undermined.

But there is also criticism on the quality of service. A few examples are given as illustration: In the health care system with its high-tech medicine, people experience the feeling of coldness. Although the facilities are very costly, people are missing the "human touch", and in a few cases the system does not only let them wait a long time before they can find treatment or surgery, but in effect it kills them by new diseases, which originated in the hospitals, or by extremely stressed nurses or doctors. Also the school system in Europe and the United States undergoes a crisis: Violence against teachers and class-mates increases, and the curricula do not provide the pupils with the appropriate content needed to cope with modern society.

The welfare state as a bureaucratic system

Because the welfare state in Europe is mainly an activity of the public domain, it is linked to the currently rather negative image of civil servants and state bureaucracies. This is not at all helpful, too. We can see that since Max Weber's assessment of the bureaucratic administration as "the most efficient form of exerting power" a completely different picture is drawn today.

In the beginning of the 20th century, Max Weber praised bureaucracy in contrast to the feudal structures in place in his times, which were governed by privileges, and not by merits, knowledge and professionalism. He requested meritocracy as the key perspective for social change, and bureaucracy was the institution, where it could be implemented. As in warfare Weber was convinced that the pacemaker for the emerging bureaucracies were the then "new technologies" like "public roads or water-ways, railway, telegraph and telephone".[47]

Unfortunately, already in the past also negative sides of bureaucracies were noted: lack of transparency (Franz Kafka reflected this in his novels) by using the protection of "official secrets" for the protection of the office, unpredictability, voluntarism of the civil servants, abuse of one's position, slow or no reaction to new developments, inhuman, self-defensive, costly appearance…just to mention a few of the negative features. Within the last decades the term "bureaucrat" became a swearword with very negative connotation.

Historical background of bureaucracies

But before we become too critical towards bureaucratic institutions let us have a look at the reasons for the development of bureaucracies. A small excursion to history seems appropriate.

In the agrarian societies of the 19th century the family structure was based on the extended family, not only based on kinship, but also integrating people necessary for the production processes in farming land or raising livestock. Most of the needs of the members of such communities were organised and met by the extended family itself. Markets existed only in their infancy. By industrialisation, mechanisation (tractors, mowers, threshing machines) and

---

[47] Max Weber, Wirtschaft und Gesellschaft, Tübingen 1972, 5th edition, reprint 1990, pp. 561 and 129.

making increased use of chemistry (fertilizers) in agriculture, productivity increased dramatically, driving farmers and their families into the cities. The core family (consisting of the parents and 1-3 children) became then the standard type of family in the small towns and in the mega-cities of the 20th century. What was the effect? The new small family could no longer offer the traditional mutual support, which was available to the members of the extended family. New infrastructures and social institutions had to complement or even to replace the former interactive help. The welfare state was the answer to these new needs. The labour movements and the trade unions requested it powerfully and were finally successful. The training on the job was replaced by schools, industrial pharmaceuticals replaced home made recipes, the elderly home expected the grandmothers and grandfathers instead the cottage aside the farmer's house, and unemployment benefits had to be paid in case a member of the family could not find work again. This welfare state is still alive. But now the family size shrinks: In many European countries the single household has become the dominant family type. The dependency of the individual on societal infrastructures has even grown. And precisely in this phase, can we say good bye to the welfare state?

As we have learned from historical facts, with shrinking family size the needs of the individuals are less and less met by other members of the family, but by large scale social institutions with strong bureaucratic features. The creation of the welfare state reduced the direct responsibility of the people for each other. Structural similar to a professional army which is dealing with warfare and has split the population into warriors and civilians, the welfare state more and more acted as a specialized and professional intermediary to deal with problems of unemployment, education, illness, and elderly care, and splitting once more the population into two groups, on the one hand into professionals performing the services needed and on the other into a majority of people relieved from the burden of caring for others.

Already in the first stages of the welfare state millions of files and forms filled in by hand had to be pushed through the system obeying complex and tedious standardized procedures. Decisions were done anonymously by bureaucrats on a legal basis. To cope with the millions of cases in a more efficient way, in the second half of the 20th century information and communication technologies were applied. Early in the diffusion process of ICTs, social security and health care systems (together with the tax revenue system) became the largest users of computers and electronic networking.[48]

Falling transaction costs

As we have seen in the historic sketch on warfare new technology is a necessary (but not sufficient) condition for institutional change. It enables the individuals to be more efficient and effective in meeting the goal of the institution. In warfare, costs do not play the important role if the government can convince the citizens of the need of this activity, and usually they have very seductive arguments. In the case of welfare systems, both aspects, technology and costs are relevant, by performing all the activities faster and with higher quality, but also cheaper.

Without such change of possibilities it would become very difficult to bring up new institutions into being. Fortunately enough new information and communication technologies show both features. They support all the activities of communication, coordination and information, and all this can be done at reduced "transaction costs". The term "transaction

---

[48] Peter Fleissner, Max Webers Bürokratietheorie im Lichte elektronischer Kommunikationsmedien (Max Weber's Theory on Bureaucracy in the Light of the Media of Electronic Communication), in F. Huber-Wäschle, H. Schauer und P. Widmayer (Eds.) GISI 95 Herausforderungen eines globalen Informationsverbundes für die Informatik (pp. 127-135). Berlin etc.: Springer. 1995. See a full text version in German:
http://igw.tuwien.ac.at/zope/igw/menschen/fleissner/papers/max_weber/Max_Weber.html (15 May 2004)

costs" was coined in the 60ies of the last century. The economists[49] related to this term came from institutional economics and formulated these types of costs against the positions of the neoclassic mainstream economists with their assumptions of perfect competition and complete information. They stated that not only the price of a commodity or of a service is important for the emergence of an economic transaction, but also the costs to get information, to make the necessary arrangements for it, are relevant. One of the most interesting results found by the proponents of the "transaction cost" approach was the explanation for the emergence of certain organisational structures, meaning that by a change of the structure and amount of transaction costs new actors could come into existence, and others could disappear, like the end to the putting-out system and the birth of the factory system in Great Britain.

There is also another positive and promising trend in technological development. Information and communication technologies will also become smaller or will have strongly increased functionality. The next decades will show us the continuation of Moore's Law up to 2020, stating that the capacity of microchips (the number of transistors or electronic switches on one chip) will double within 18 to 24 months, prices held constant.[50] This means a tenfold increase of the capacity within the next 11 years. In the past 26 years (precisely between 1971 and 1997) the number of transistors per chip grew by a factor of 3200 (1971 2300 transistors on the chip 4004, 1997 7.5 million transistors on the Pentium II). Extrapolating this development means a reduction of the size of an electronic element by a factor of more than 3000 by 2224. The effect will be that computers and intelligent and mobile communication devices will become ubiquitous. New and cheap mobile communication tools could allow providing welfare related services no longer only by huge, rigid and costly bureaucratic institutions, but also by small groups in an individualized, customized, flexible and humane way.

Nevertheless one should be aware that also in the realm of new communication technologies there is no free lunch. Their application also creates new kinds of costs, and one has to balance the increases and the savings before one really uses these technologies: a society cannot get for free the universal access to its electronic networks, there are training costs involved for the computer literate, and, last not least, the increase of labour productivity could eventually lead to higher rates of unemployment, and by that creating new kinds of costs, political costs at this time.

New opportunities: Targeted Intelligence Networks

While in the past century the development of the welfare state was correctly seen as a tremendous progress in the improvement of quality of life, new factors emerged where new arrangements could come into being. The increase of the average income allows now to cope more easily with smaller personal risks on the individual level (although this should not be seen as a solution for extreme cases), the reduction of the working week leaves more time for other activities outside the factories and offices, and the increased longevity adds healthy years to the curricula of the retired.

This could mean that the possibilities for a reshuffling of responsibilities, institutions and resources are historically ready to emerge. A new institutional design could be considered.

---

[49] A. Alchian and H. Demsetz, Production, Information Costs, and Economic Organization, in: American Economic Review 62, 1972, pp. 777-795; R. H. Coase, The Problem of Social Cost, in Journal of Law and Economics, 3, 1960, pp. 1-44; Oliver E. Williamson, The Economic Institutions of Capitalism - Firms, Markets, Rational Contracting. New York and London: Macmillan, 1987; D. C. North, Institutions and a Transaction Cost Theory of Exchange, in J. Alt and K. Shepsle, eds., Perspectives on Positive Political Economy, Cambridge University Press, Cambridge 1990, pp. 182-194.

[50] source: http://www.intel.com/intel/museum/25anniv/hof/moore.htm (14 May 2004)

Interestingly enough, already in the 1960ies, the German economist Wilhelm Röpke has dealt with this issue. Probably from a somewhat ideological position of liberalism, he wrote:

"*The past's extreme individualism is not least to blame for the reversal which has brought about the opposite extreme, the modern welfare state. It is surely the mark of a sound society that the center of gravity of decision and responsibility lies midway between the two extremes of individual and state, within genuine and small communities, of which the most indispensable, primary, and natural is the family. And surely it is our task to encourage the development of the great variety of small and medium communities and thereby of group assistance within circles which still have room for voluntary action, a sense of responsibility, and human contact and which avoid the cold impersonality of mass social services.*"[51]

From there a clear cut conclusion can be derived: Neither large scale institutions nor the individuals on their own are in a position to cope adequately with the negative aspects of human existence. Consequently, in the next paragraphs we propose and discuss new group based institutions assisted by contemporary communication tools and adequate training opportunities.

When the author worked for the European Commission at the Institute for Prospective Technological Studies (IPTS) in Seville, Spain, he convened an international workshop to discuss the emergence of these new groups. To give the baby a name we called them "Targeted Intelligence Networks" (TINs). Their common feature is the voluntary and specialised cooperation of a small number of people in groups toward a certain goal.

Maybe it is the right time to make a methodological remark. While the usual work of social scientists is to analyse past developments, here we are mostly dealing with the future. But how could one link the proposals for the future with the empirical patters to be found already in the past? Our methodological answer was that we have to be able to find examples, cases and case studies in the field of investigation, other wise our proposals would just be utopian (meaning in ancient: "without any place, nowhere") Therefore at Vienna University of Technology we started by screening various sectors of society for already existing alternatives[52]. Interestingly enough we could identify seeds of new developments in each of the four essential areas of the welfare state: in the areas of elderly care, of education, of health care and in employment.

"Peer Group Care" in addition to the traditional social welfare system for the elderly, poor, disabled and other outsiders; "Study Circles" to complement traditional schools; "Workers' Health Assurance Groups" to improve the occupational ill-health status, and "Intrapreneurial Groups" against alienation on the workplace are examples to illustrate how the Welfare State could be transformed, but not be replaced.

Peer Group Care

In the contemporary society we already can observe certain group centred activities. They are partly organised by religious communities or by other non-governmental organisations taking care of the elderly, drug addicts, homeless, unemployed or members of specific minorities, but also by the state. Our proposal for a TIN in this area comprises of a group of volunteers who become active in their neighbourhood, quarter, district etc. to engage themselves in their leisure time. We called the institution "Peer Group Care". Their interaction could be assisted by giving them access (maybe for free) to the Internet and

---

[51] A Humane Economy: The Social Framework of the Free Market by Wilhelm Röpke (1899-1966), translated and with an introduction by Marianne Cowan. Copyright © 1962 by Henry Regnery Company. All Rights Reserved. Reprinted by special permission of Regnery Publishing, Inc., Washington, D.C., see: http://www.house.gov/jec/classics/ropke.htm (14 May 2004)

[52] This was part of the response to a global request under the title: "Men's work – tomorrow" by Futuroscope, a kind of Disneyland for the Future, located in Poitiers, France, for new ideas for Europe. In an international competition the study we did was selected as one of the two winners of the award (see the full study at http://members.chello.at/gre/fleissner/documents/work/work.pdf 14 May 2004)

mobile communication tools. Adequate training has to be provided by state institutions depending on the group they are specialized in their work. Very important is their ability to deal with crisis situations. For this reason they have to be linked to emergency services, being allowed to send people to public or private hospitals if necessary. What could be their compensation? In case they are engaged in Peer Group Care, they are no longer obliged to pay their premium or any other usually obligatory contribution to social insurance. Nevertheless they continue to be subject to the services social security could provide them.

Study Circles

In education we identified an example in place since several decades in Scandinavian countries. So called "Study Circles" are a rather popular institution. Their origin comes from the protestant bible study circles of the 19th century. Contrary to the Roman-Catholic tradition where the bible was not open for private interpretation and only the officials of the Church had the right to give the correct meaning to the texts, in Protestant circles the believers were invited to add their personal opinion on the texts. The secularized version of this protestant movement was adopted by the governments. Up to now a group of people who wants to deal with a special subject of investigation can apply for some (limited) resources at any institution of the public, local, regional governments, ministries, chambers of commerce, trade unions etc. I was informed that more than half of the citizens of Scandinavian countries have experienced a study circle one in their life.

The use of the Internet to assist these groups has already started in those countries.[53] To add value to the effort put into the work with Study Circles it would be necessary that the institutions of the education system accept the results officially and give them credit. In particular in education and training, where the half life of knowledge is decreasing, new fields of expertise are acquired easier outside the official institutions than inside. The borders of schools would be blurred by these new institutions, adding more flexibility to the education system.

Workers' Health Assurance Groups

In the area of occupational health we identified an interesting approach in Italy. Most of the Italian Trade Unions started an initiative to improve the ill-health situation in the factories, in particular for manual workers.[54] They applied two new ideas, the concept of the "Homogenous Group" and the "non delega" principle. The homogenous group meant people working on the same assembly line with more or less identical working environment, and also knowing each other on a face-to-face basis. They could form not only an interactively working community, but also a politically conscious group acting for the improvement of their working conditions. By applying the "non delega" principle the workers opposed the often used practice of having professional physicists as mediators between the workers and their environment. The Homogenous Group itself took care of adequate conditions in the working place, assisted by guidelines and also technical devices to measure the environmental situation. The work in Homogenous Groups was rather creative. They developed new

---

[53] see the working paper by Lars Karlsson, Study Circles in Targeted Intelligence Networks (TIN), Seville: European Commission, Joint Research Centre, Institute for Prospective Technological Studies (IPTS), R 19568 EN 2000. http://www.jrc.es/home/publications/publication.cfm?pub=329 (10 May 2004)

[54] See e.g. Helmut Wintersberger, Arbeitsmedizin in Italien - und in der BRD? in N. Opitz (Hrsg.): Unsere tägliche Gesundheit. Krankheit und Industriegesellschaft, Berlin 1981; Gerlinde Dörr and R. Klautke, Gesundheitsinteresse und Industriearbeit, Aspekte der italienischen Arbeitermedizin, Berlin: Wissenschaftszentrum Berlin, 1981; Helmut Wintersberger, Arbeitermedizin in Italien. Eine Kulturrevolution im Spannungsfeld von Arbeit und Gesundheit, Berlin: Sigma, 1988

concepts of measuring and describing illnesses, no longer by Latin names, but by the length of the time period necessary for recovery from the illness.

In the 1970ies these concepts started to be implemented also by Swiss and Austrian Trade Unions, but they died out within the economic crisis of the mid seventies. Today there are even more opportunities by giving such groups support via the Internet, linking them to each other and also to professional resources on issues of occupational health.

Intrapreneurial Groups

The last example we identified of being of interest for assisting the welfare state was a concept which was developed more or less at the same time in the United States and in the late Soviet Union under Mikhail Gorbachov, but, of course, under completely different side conditions. While in the United States "Interpreneurial Groups" were seen as smaller production and accounting units, in some cases working at their own risk, but with less overhead, the "brigades" in the Soviet Union were seen as more or less self-determined subunits of state owned firms, bound to the enterprise by contract[55]. We would propose an extension of these concepts. Within an enterprise, Intrapreneurial Groups could deliver products or services to their "own" enterprise or to other firms. The means of production could be leased or become their property also. The hierarchy levels could be reduced, the alienation from management or other decisions would be brought down to reasonable levels. The number of persons involved in decision processes would grow enormously. People would be put more and more in a position to deal with their own problems in a self-organised way. They would directly feel the results of their own activities, which might also increase the level of productivity of labour. Hiring people could be quickly done on a less bureaucratic level. The Intrapreneurial Groups could recruit their future colleagues directly out of their own neighbourhoods. They could identify their needs for support maybe in a faster and more targeted way than if they have to wait for the decisions of the top management. More flexible adaptation to new needs and to changes in the market could be the result.

Of course, new technologies like wireless access to the Internet, mobile offices and other devices for electronic cooperation on the run have to accompany such groups, as it is more and more the case in the traditional enterprise.

Concluding remarks

Kant's first article to eternal peace stated: "Die bürgerliche Verfassung in jedem Staat soll republikanisch sein" ("The civil constitution of each state should be republican").[56] His hope was based on the implication of the republican constitution that all the citizens explicitly have to agree in a democratic manner on waging war. Kant expected that citizens will vote against war because they would have to suffer all the hardship war implies: they had to fight, to fund the costs of war, afterwards to reconstruct the devastated areas and to cope with the never ending debt. He thought free citizens would be reluctant to start such a terrible game. Kant was wrong. The Categorical Imperative was not strong enough to become effective in changing reality.[57] As we can learn from history a republican constitution is not sufficient to guarantee peace.

---

[55] See Tatjana Saslwaskaja, Die Gorbatchow-Strategie, Wien: Orac, 1989, p. 117

[56] Immanuel Kant, "To Eternal Peace", (Zum ewigen Frieden. Ein philosophischer Entwurf. Reprint der Erstausgabe von 1795) Berlin: Verlag der Nation, 1985, p. 20 of the first edition 1795

[57] And this is true even after the trivial version of the Categorical Imperative "Quod tibi fieri non vis, alteri ne feceris!" (Alexander Severus, Roman Emperor A.D 222 - 235) has found recently its empirical neuro-physical basis: Researchers in the Netherlands proved that in an observer's part of body neurophysiologic activities are induced just by watching another person touching the same part of another body. They call it the "somatosensoric complex". People feel the same they assume others are feeling. (Die Presse, 27 April 2004)

But Kant gave also a hint why in the case of autocracy it is easy to decide in favour of war: The autocrat does not directly experience any restriction of his life, his parties, banquets and hunts. He is separated from the negative effects of war and can still keep up his lifestyle. I think we can take up Kant's argument on autocrats and apply it also to the modern citizen. The functions the modern welfare state fulfils are also separated from its citizens. As Michel Foucault has masterly described, total institutions took over the functions formerly performed by the families and other informal communities. The citizen is relieved of the stress to take care of the members of his/her family or compatriots in case of severe illness, invalidity, poverty, unemployment, and lack of education. The welfare state has created institutions fulfilling nowadays all these tasks: schools, hospitals, social security systems, prisons etc. But one cannot deny that the result is a kind of alienation from the events of everyday life. Illness and death are hidden in the hospitals. Each task formerly done by the family or friends is now transferred to public or private specialised institutions. The wave of alienation is spreading all over society and therefore citizens become once more the victims of populists, and even agree upon war. The tendency towards increased individualisation can bring about increasing acceptance of nice promises of the political leaders, or increasing belief in necessary use of military power to liberate other people. As an individual, it is not easy to keep up a decision against waging war or against discrimination of foreigners and to resist the media based, well designed seduction. As the follow-up of September 11 by the Bush administration and other states has shown, neither national nor global civil society could prevent the war in Iraq.

In this context another interesting fact deserves our attention: It is really striking that contrary to the Vietnam War there was no major resistance from youth or student movements when it came to the wars the U.S. waged during the last 15 years. It seems as if the political consciousness of the students has completely disappeared. How could this change in behaviour be explained? In my opinion the main factor behind this development might be the transformation of the military service from a compulsory to a voluntary one. 1973, after the Vietnam War, compulsory conscription was terminated. The reason given to the public is quite traitorous, "because an army based on universal conscription is politically too susceptible". During the Vietnam War 45.000 Americans were imprisoned because of conscientious objection against the war. Now, as there is a voluntary army made up of professionals, the youth and the students can look at war from a distance, because they are no longer directly affected.[58]

Maybe time has come to reach out for a reversal of the trend towards societal alienation and to foster - or if needed to re-establish - links among the individuals of post-modern society. Of course, such intention is useless without establishing appropriate institutions. They can provide a framework where the individual can feel and understand what is going on at the societal and global levels.

On the other hand I am not that naïve to assume the immediate implementation of the concepts proposed. It will depend on the level of income, on the amount of leisure time left over after the necessities of work. It will also be the result of the psychological status of the majority of people. If the contemporary society is able to give them a feeling of living in the best of all possible worlds, and their environment is able to keep them happy and prosperous, no such concepts will become necessary. But with increased experience of crisis symptoms, of increased feelings of anxiety and stress, maybe a discussion of alternatives could become more probable. TINs could play here a role, because another intended effect on the members of TINs is the more direct experience of the dark side of life, of the destructive tendencies of societal change. One could expect that they will react more adequately to any deterioration within the framework of the own work. For that they will probably base their votes on their own experience more than on the images produced by mass media.

---

[58] Thomas Kramar, Kein Woodstock ohne zerrissene Einberufungsbefehle. Die Presse: Vienna, Austria 11 May 2004, Feuilleton, p. 37

The author is realistic enough that it will not be sufficient just to trust in the post-modern fashion of self-organisation and to wait for its implementation. My position is rather that political leadership and public discourse has to prepare the decisions for a framework within that these new forms can emerge. This framework should not only be composed by encouraging words and media campaigns, but also by financial, infrastructural, material and educational resources to empower people to take over their new tasks voluntarily. This implies also certain ways of compensation and remuneration for their efforts and their contribution to society.

While the traditional welfare state with its ability to channel society's resources to the individuals and households via large scale national or quasi-state institutions, relieving the citizens from their burden to care directly and personally for their relatives or neighbours was the adequate response to the challenges of the last century. But history brought up a new situation where features of alienation, emotional coldness and irresponsibility indicate to modify the design of the welfare state. By adding elements of socialization to the former nationalized institutions or finally replacing them by smaller institutions directly controlled by its citizens ("Vergesellschaftung statt Verstaatlichung"), a new direction of development could be opened up, which might make it easier to meet the traditional and new necessities at once. Any modern welfare state has to meet old and new requests at the same moment: traditionally it has to compensate for different risks and offer equal starting positions in life; it has also to strengthen equal treatment of the various groups of population, now mixed up by globalisation. Being a member of a particular gender group, of a particular social class, social strata or ethnic origin, religious belief, age or degree of impairment should not be any reason for discrimination or exclusion from society. And the emotional climate of society itself could be influenced towards more solidarity. My proposal - whatever modifications or amendments you would like to make - should contribute to the discussion on improvements in the quality of life, in particular for the minority and vulnerable groups of the European societies. If human beings can enjoy life and develop themselves in freedom and peace in the long run these reforms will pay back their costs.

As a side-effect, Kant's assumption of the superiority of the republican civil constitution in preventing war and preparing for eternal peace finally could become applicable and real.