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The People's Information War

Humanity stands at the threshold of the information society. Digital television, extremely fast computers, virtual reality, DVD, satellite telephone hook-ups, and fax are a few of the material achievements that we enjoy thanks to information technologies and which make our life more pleasant. However, long ago, Laozi (an early Chinese political philosopher and author of the *Daodejing*) wrote that "misfortune lurks, waiting to waylay good fortune." Along with the changes that information technologies are imposing upon society, humanity is also faced with a new form of warfare–information war–which in turn leads to revolutionary changes in the whole military field. If we wish to comprehend the consequences of these epoch-making changes, we must directly confront not only the transformation of the way in which wars are waged, but also the very essence of war itself. And we must develop a new conception–namely, the people's information war–because otherwise we are incapable of understanding precisely in which spheres this revolution is taking place.

The People's Information War–a Product of the Times

Why is it incumbent upon us to get a clear understanding of the problems of our age? Because a particular epoch forms our mental perspective and constitutes the point of departure from which we investigate and deal with problems. A ship sailing the high seas must precisely establish its position in order to then be able to determine the direction in which it must navigate and to correct deviations from this course. The sole reason that the Titanic collided with an iceberg is that the ship departed from its course. That is just one tragic historical example. If the course remains true or if a deviation can be corrected in time, then such an unfortunate event that cost the lives of so many human beings would not even have occurred. The world presently finds itself in the process of transition from an industrial to an information society. Production that is highly mechanized and centralized will be replaced by a decentralized, flexible form of production, and materially-oriented industrial technology is slowly being transformed into a technology of directing information flows. A change of this magnitude on the technological level is irreversible. In light of this irreversibility, humanity has no choice but to develop in the direction of the information age.

But in which age are we actually living now? My personal opinion is that the developments currently emerging must be divided into two phases: an initial phase that has already commenced, encompassing perhaps the next 10 to 20 years or, under certain circumstances, the next few decades, and the actual "future." The future is most certainly the Information Age, the Information Society, there can be no doubt about this. Before this comes about, however, we must go through the phase in which humanity sets its course for the actualization of the information society. In this phase, the achievements of industrial culture will be almost totally computerized, thus creating the preconditions for the actual transformation of society into an information society. Expressed in more vivid terms: this phase employs informational technology, thinking and methods in order to revamp industrial culture. Therefore, this phase could also be termed the initial phase of the information society or the sub-information society.

As far as the present is concerned, we are now taking our first steps in the direction of the information society. This process could be compared to a long train traveling through a tunnel: the locomotive has already disappeared into the tunnel while the actual body of the train is still a long way off from the tunnel's entrance. It will still take a great deal of time

before we have achieved the total information society, since humanity today is still by no means capable of meeting the demands posed by an information society; human thinking, our knowledge, and our concepts are not yet correspondingly developed, and the material developments necessary for this to take place have not yet been completed. Even a nation such as the United States that has already made relatively great progress on the way to an information society still uses, for example, paper currency along with electronic money. In other words, this area has not yet been fully digitized. Government employees or factory workers are still obliged to leave their homes and drive many miles to get to their workplaces. Nor has social life yet been completely computerized. Even if an additional developmental step were to be made and one or more nations actually would succeed in fulfilling the preconditions of an information society and thus became true information societies ahead of others, the question of co-existence with these other nations throughout the world would still remain. Due to economic globalization, no nation can develop or even survive independently of other states. For this reason, humanity is at present in a transitional stage heading in the direction of the information society.

This phase displays a number of characteristic features. First, old and new concepts are colliding with one another. Our way of thinking paves the way for every form of action; without changes in our way of thinking, we are incapable of solving the existential problems of humanity, nor can we completely eliminate the danger of an outbreak of war. Regarded on the conceptual level, a fundamental transformational process can take place during a transitional phase. For example, the question arises as to whether, in such a phase, we still need or even have to continue to produce tanks and firearms. On the basis of highly divergent points of view, one might conclude that such weaponry is needed and ought to be produced, or, conversely, that it is not needed and ought not be produced. Whoever maintains that they are needed proceeds under the assumption that one certainly would have to rely on tanks and firearms in a war that would take place now or in the near future. Assuming that every nation on this planet were called upon to destroy its tanks and firearms, it is probable that not a single one would comply with this demand, since doing so would endanger its national security and make victory in some potential war an impossibility. If, however, the answer to the question is no, then what is meant thereby is that tanks and firearms as conventionally understood in the past are no longer necessary. Over the course of social development and rapid technological progress, new forms of high technology, including information technology, ought to be implemented to the greatest extent possible for the redesign of conventional armor and weapons systems which would thereby take on partially or completely new forms. This would, for example, increase their firepower, lengthen their deployable life, as well as raise their deterrent potential and their degree of automation. Such changes of perspective constitute a process over the course of which old conceptions give way to new ones.

The second remarkable feature of this phase is the fact that old technologies are capable of being "refined." Since the transition from industrial to information society is triggered and advanced by technological progress, information technologies play the role of an activating "catalyst" that extends the life expectancies of other technologies and enables the output and efficiency of the integrated technologies that have emerged as a result of the introduction of information technologies to attain completely new dimensions. For example, US Patriot missiles are the result of the interplay of information technologies with conventional technologies. In general, technological progress takes place gradually and continually, whereby, in the initial transitional phase, for the most part, new technologies flow into the old ones until, little by little, they completely replace them. In an airplane or a machine tool, highly diverse technologies are combined, new elements are constantly being added, such that

the performance, efficiency and cost-benefit relationship of these machines are considerably improved. Thus, it is by no means extraordinary that old and new technologies exist side by side in a single product. The old technologies preserve the fundamental character of the object while the new ones create the preconditions for functional improvement, so that the upshot is a permanent process of upgrading until this object also ultimately undergoes an essential transformation.

The third distinguishing feature of this phase is the mutual penetration of the military and civilian spheres and the extent to which they reciprocally influence one another. In an age in which human society is being transformed into an information society, rigidly adhering to a differentiation between technologies used for strictly military or civilian purposes, and artificially discriminating between members of the armed forces and the civilian population is probably an indication of tremendous stupidity. Is a chip used for military or civilian purposes? Is laser technology to be assigned to the military or civilian sphere? Here, a strict differentiation is actually not even possible any longer. If a chip is installed into a jet fighter, it is of course being used for military purposes; nevertheless, the same chip aboard a passenger aircraft is in civilian use. If it is part of a camera, a digitally-controlled machine tool, a computer or some other neutral object, such a process of differentiation becomes even more problematic since such objects can be utilized in both spheres. The same applies to human beings. A few computer experts–who are, perhaps, already retired and might not necessarily have even been military personnel–or especially gifted young people active in the hacker scene could, for example, could recklessly exploit their extraordinary technical capabilities to paralyze the computer networks of entire nations, to plunge the finances of a country into chaos, or to make weapons uncontrollable. Archimedes said in his day: "Give me a place to stand and I will move the world." Today he might be able to say: "Give me a computer and I will blow up the world." Considered from this perspective, the theory of the people's war developed by the Communist Party of China and the splendid practical implementation of this theory takes on a completely new significance. In the people's war, no great significance is attributed to the differentiation between military and civilian realms, between military personnel and civilians. An essential feature of social life in the Information Age will be that both the use of technology as well as the role of the individual assume an increasingly neutral character, and the differentiation between military and civilian fields becomes indistinct. Under the influence of information technology, the conception of war and of waging war will necessarily have to be modified. This transformation culminates in the concept of the people's information war.

The Essence of People's Information War

Regardless of the category of warfare to which one assigns information war, the question of what relationship exists between information warfare and the people is of both theoretical and practical significance.

Marxism proceeds under the assumption that change of phenomena in the world is absolute and that immutability is relative. Acknowledging change is a materialistic attitude; not acknowledging change is an idealistic one. This applies to the attitude toward war as well. Due to the rapid development of information technology and its synthesis with military objectives, in a future war, information will not only be an essential means of conducting a military engagement; rather, it also opens up a completely new battle field to military confrontation. If one compares the people's war of the past with that of the future, significant changes become apparent. The acquisition, dissemination and use of information, the rivalry in the struggle to obtain mastery of information, as well as deceptive measures and

countermeasures in the analysis of information can conceal unexpected risks for those preparing for and waging information warfare. But the radical changes that have already taken place as well as those yet to come–such as the high technology that has already penetrated the military sphere–merely bring about a revolution on the level of the instruments of confrontation and the methods used. Nothing has changed in the essence of the people's war itself.

The people's war is a historical phenomenon. Its essence is using the power of human beings–the people–and selecting corresponding methods of warfare in order to terminate an unjust war by means of a just one. In this respect, computerization produces absolutely no changes in the essence of people's war since, in information warfare as well, the human being continues to be the driving force, whereas weapons and other auxiliary equipment assume only secondary importance. The direction in which the war develops depends upon the approval of the people. Thus, here as well, the people remains the mainstay of the war. Indeed, due to the continual deepening and strengthening of the revolution in the military sphere, which is only made possible by computerization, the people now has better, "more intelligent" tools at its disposal. In this way, the preconditions have also been satisfied which enable the people to take part in information warfare and which make victory considerably easier. A theory of people's war cannot do without precise knowledge of the laws governing information warfare and the classic principles which determine the course of the war. In other words, information warfare is a war of the people in the broadest sense of the word–a war which is carried out on a very high level once high technology has reached a certain historical phase.

People's war as a form of warfare and as a theoretical construct came about under the leadership of the Communist Party of China during the early phase of the Chinese Revolution and also achieved its consummate form there. It has left behind clear traces in history, in political culture and in technical methods. With the emergence of the Information Age and as a result of the effects that the technological revolution has had upon social life, however, the concept of people's war assumes a completely new dimension and creates preconditions that are favorable to victory. Employing the concepts of the classic people's war to describe a people's war taking place now or in the future under the conditions of the information society could, under certain circumstances, not only lead to confusion with respect to the history of the early struggle of the Chinese people, but also might not make it clear that information is the essential factor in the case of a military conflict in modern times. On the other hand, if one employs concepts of information warfare to describe an all-out, wide-ranging, multi-dimensional war in which the populace at large takes part, a war whose development depends upon the will of the people and the course of which is controlled by the people, then the most fundamental characteristics of the war do not become clear. Thus, when I speak of "people's information war," two features should become clear thereby: that the war is a war of the people, and that this war takes place in the age of the information society. After all, the people is the most essential element of the war and the general public is the driving force of the war; the theory of a people's war, one based upon the people, constitutes the guideline which determines the methods to be employed and which, in turn, emerge from human beings as the central force of the war. People's information warfare is a people's war which takes place during the Information Age.

The Preconditions for a People's Information War

Perhaps a future war will be a ruthless struggle between computerized armies on a computerized battlefield. Perhaps it will also be triggered by chaos in the networks of financial systems. Perhaps it will be a play of ciphers in which astronauts (robots) populate

the theater of battle while the specialists of the think tanks pull the strings behind the scenes. But perhaps the military, political and economic realms are also interwoven with one another to such an extent that it is not even clear whether this has to do with a military test of strength, with mere political polemics or with an economic conflict. These scenarios are, of course, extremely closely connected with technological development currently taking place and with the revolution in the military field.

This military revolution has created four framework conditions that favor a people's information war.

Thanks to the widespread availability of computers, there are increasing opportunities for individuals as well to actively take part in an information war. Thus, it is possible today, for example, for a person to sit in a café and, while sipping a cup of coffee, to make contact with complete strangers all over the world–a completely new and thrilling experience. Countless cafés of this kind have come into existence since, technically speaking, this is by no means a complicated matter. All that is necessary is to get on the data highway and link up to a terminal. This illustrates indirectly that information technology has long since left the laboratories and has penetrated the lives of human beings. We can drop into a café where a computer provides us with a wide variety of news and messages; in precisely the same way, thanks to special software and hardware, we are capable of destroying an enemy's data banks and information networks.

The computerization of capital flows has opened up new terrain to information warfare. The association of insurance companies in Great Britain has admitted that the losses suffered annually by commercial and industrial firms there as a result of computer crime has reached £1 billion, and that the insurance claims alone already amount to £200 million. Bank experts already are hard pressed to combat counterfeit automatic teller cards and programs turned out by computer criminals. Indeed, in some areas, industrial production and people's everyday lives have already been affected. If, during a time of war, such criminal activities were concentrated within a brief span of time in a particular region or nation, the results could be incalculable. The financial crisis which gripped Southeast Asia recently is still a source of great concern among the general public. Modern technology has brought about tremendous growth in the world of finance and has provided mankind with a wide variety of benefits; at the same time, however, these advantages have become disadvantages which cast their shadows over the lives of human beings. For example, in a certain large city, students have employed their knowledge in the field of telecommunications to decode the security programs of public telephones and to make innumerable long-distance calls–all for the cost of a few coins. Nor do they leave that same phone booth without all the change that paying customers had previously deposited. As a result, the telephone company in the city in question saw itself as being forced to do away with pay phones. This case of going a bit too far in employing knowledge in the field of telecommunications was, indeed, a student prank; however, it shows just how vulnerable financial and telecommunications systems are. A result of this vulnerability is that military conflicts in the financial sector will be unavoidable.

The development of the Internet opens up new opportunities for the individual to participate directly in an information war. According to statistics, this largest of all international computer networks already has over 60 million users worldwide and includes government organizations, universities, research institutions and enterprises as well as private persons. In the developed countries of the West, the number of computers in public and private use with an Internet link-up increases by 10% each month. The importance of the Internet should not be underestimated since it enables users to communicate with people all over the world and

thus steadily makes the world a little bit smaller. For example, when a student at Qinghua University in Beijing was suffering from a mysterious illness, a call for help was circulated via Internet; in a very short time, specialists all over the world responded not only with explanations of the student's illness but also with specific suggestions for treatment. At the end of 1995 in Hongkong, there were 100,000 computers with Internet access, and at least 42% of the population of Hongkong had a computer at their disposal. There is no sphere of life into which modern technology would not penetrate, so that, almost unnoticed, the revolution triggered by information technology is encompassing the life of virtually every individual. Completely new forms of information warfare are coming into existence–for example, information fraud can be committed by means of e-mail, and by controlling information networks, the direction and speed of the information flow can be influenced. The domain of information warfare thus extends into the furthest reaches of the internet.

Since the net is used for both military and civilian purposes, it is conceivable that a people's information war will be launched secretly in times of peace. At present, the technological revolution only provides the people with a staging ground for confrontations; if, however, this technological revolution is linked up with the military sphere, then this can assume the characteristics of a true conflict. Some people believe that the information highway, the Internet, computers and multimedia are merely synonyms for commerce, profit and communication. In light of the actual course of developments, however, such views are completely out of touch with reality. In recent years, groups of experts have formed in Great Britain and the United States to attempt to use computers and the Internet to break the code of the US Pacific Fleet. They penetrated the fleet's central command network, issued orders to individual ships and observed them being carried out. This illustrates that as soon as the "gentle knife" of information is implemented for military purposes, it as well can lead to bloodshed and destruction.

The revolutionary transformation in the area of information which has been triggered by modern technologies–whether the development of the Internet and other information carriers or the free exchange of information–enables human beings to take part in warfare without even having to go outside. The interlinking of various different networks and the integration of remote control systems has led to a situation in which every nation that has implemented automated systems constitutes a potential target. The fact that information has taken on ever-greater relevance even in the lives of average citizens is one reason why those who take part in information warfare do not necessarily have to be soldiers, and it is completely conceivable that, one day, the civilian population will constitute a fresh force in war. Think tanks staffed by non-government experts will not only take part in the decision-making process; rather, they will perhaps be the first choice when it comes to deploying reserve troops. Rapid mobilization will not be limited to young persons; information-oriented industries and economic sectors will be the first to be mobilized and sent into battle; after all, it does not matter if those who are called up are organized in units or not, or whether or not they are members of the armed forces. The traditional forms of military operations will thus undergo a fundamental process of change–priority is granted to operational plans oriented toward information warfare as far as their formulation and practical implementation is concerned, etc. Since other technologies are understood by human beings only once they have been combined with information technology, and since information technology is being ever more strongly socialized and integrated into everyday life and thus increasingly an accepted matter of course, all preconditions are in place for information warfare to be not simply a matter left up to armed forces, but rather one in which the general public can take part. Thus, in light of the military revolution, a people's information war enters into the realm of possibilities.

The Characteristics of a People's Information War

Under the influence of the revolution in the military sphere, the people's information war displays a number of differences in comparison to previous forms of warfare. This is primarily reflected in changes that have taken place in five areas.

The instruments of war are no longer mechanized, explosive devices such as rifles, bullets, tanks, etc., but rather are intelligent devices. Since human beings have lived until now in the culture of the industrial age, the weapons which have been deployed in war have also been characteristic of industrial society. And even if nowadays new technological elements are being integrated into these weapons to bring about an increase in their speed, range and killing power, they still essentially conform to the pattern of mechanized industry. In the Information Age, however, a run-of-the-mill computer or a normal, everyday radio station can serve as a means to wage war. In a war in which anyone can participate, in which the entire people is "armed," the days in which each man has his gun and fires his bullets are long past.

A battlefield is longer a place to play "blind man's bluff." On the contrary–ever-greater clarity is the rule. The US Army has already deployed digitized forces and is intensifying its efforts to set up a digital–and thus transparent–"battlefield." Thanks to improvements in information systems and technologies, however, all aspects of life are becoming more "transparent." In the preparation of a potential theater of war during times of peace, closest attention is paid to the hardware of the information systems and the acquisition, processing and exchange of information as well as the development of countermeasures, whereas, during wartime, the protection of the information transfer system is assigned top priority. In a future war, it will be more difficult to "conceal" oneself, the "blind spots" on the "information field" and in the "information clusters," the "gaps" and "fissures" are more difficult to exploit, the rhythm of warfare increases, and it is thoroughly conceivable that short-term disruptions in the technology of warfare can occur. Furthermore, even more prudent planning and preparation is required on the command level because of the necessity of anticipating the enemy's moves and foiling his calculations.

The objective of war thus shifts from the destruction of hostile forces and the capture of as much materiel as possible to the acquisition and exploitation of information. In information warfare, it is no longer necessary to take prisoner as many enemy soldiers as possible or to capture his weapons and other equipment and goods. Every act of war in the future will revolve around tapping into information resources: the acquisition of information, the quantity of information transmitted and its degree of usefulness will shift to the center of military interest in the future. Victory or defeat–the outcome of a conflict essentially depends upon how much information one side is capable of appropriating.

The personnel waging war is shifted from "natural" human beings to a combination of natural persons and astronauts or robots. Since the future field of battle will encompass all accessible realms–earth, air, sea and space–all information carriers, information channels, information distribution networks, modem systems and information systems for the analysis of decisions are among the primary targets of attack. If a natural person and a robot or a natural person and an astronaut are combined into a new form of warrior, such troops could be deployed for aggressive action in any possible point in a theater of war. Depending upon which sphere or environment a violent conflict arises in, warriors could be created that are precisely adapted to these conditions of battle.

Operational methods are transformed from those of mobile warfare in which tactical maneuvers are carried out by large companies of troops, or from guerrilla warfare, to those of electronic warfare–to information-supported tactical coordinates, to a war of deception by means of information or to warfare in the information channels themselves and to other information-supported methods applied under conditions of high technology. These operational methods have arisen under certain historical circumstances and have been adapted to the corresponding forms of warfare. The tactics of encirclement formerly practiced by large army divisions, the decisive battles between armored formations, the large-scale attacks by air squadrons, the sea battles, the bombs bursting in air–such operational methods will be employed less frequently and, when they are used, then as a part of information warfare. On the other hand, parallel to the dissemination of information-based knowledge and to progress in the development of information technology, complex, multi-dimensional methods will emerge that can be deployed by the general public. These will directly target information resources and employ intelligent components.

In short: a people's information war which displays all characteristics of information-supported warfare, in which, however, the chief combatant remains unchanged, manifests itself in a fundamentally different form and cannot be compared with any wars that have been waged until now. The probability that the general public takes the initiative and, depending upon individual circumstances, participates in combat is increasing. In many cases, it depends upon the individual himself whether, where and when he will go into battle. To the extent that this depends on intelligent devices, communication networks and other forms of modern technology, the probability will increase further. Traditional gesticulations, facial expressions, body language, semaphore signals, beacon signals and other signs are being incorporated into modern technology; they are melding with information devices to form a single entity, and they are enriching the language of information and the techniques of transmission. Unique ethnic qualities and special geographic features are emerging more clearly in information warfare. The use of strategies is becoming even more subtle and more unpredictable–the planning of an information-supported confrontation, waiting for the most favorable moment for a confrontation, its execution and subsequent development–all of these points will come to depend increasingly on the level of strategic planning and from the skill displayed in their practical implementation. The objective of information-based confrontations is to achieve a tangible peace by means of an intangible war; they seek to achieve peace on the hardware level by means of confrontation on the software level, and to deter and blackmail the enemy by means of informational superiority. Thus, to an ever greater extent, the bloodshed of war will be replaced by the confrontation in the infosphere. These changes on the informational level will have a powerful effect upon military experts. One of the essential factors in deciding whether a war breaks out or not is the difference in the quantity or quality of information that two rival nations possess. Under such circumstances, each individual has a shared role in all matters–both large and small–that effect this world, and he can also perform acts–both large and small–that influence this world. Information warfare cannot be compared with conventional wars, and the people's information war cannot be regarded from the perspective of the past. The people's information war which, thanks to open information systems, hundreds of millions of people can take part in, will in a number of different forms co-determine future history.