

# **MODERN WARFARE**



# CONFLICTS OF THE 21ST CENTURY BASED ON MULTIDIMENSIONAL WARFARE – “HYBRID WARFARE”, DISINFORMATION AND MANIPULATION

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## Abstract

*According to H. Schiller, manipulation is a tool of conquest. The oldest forms of manipulation were ideologies. Fabrice d'Almeida referred to manipulation appearing in the eighteenth century, but, according to Schiller, it appeared in the nineteenth century with the discountenance of physical oppression. The use of manipulation as a tool for fighting intensified after 1945. Nowadays, manipulation has changed when it comes to factors such as the strength of impact, range, and multitude. An important factor influencing the use of manipulation is modern technology. New environmental conditions influence the character and typology of conflicts. Changes in the environmental conditions enlarge the field of possible threats. Nowadays, we can observe that contemporary conflicts have a large complex scale, which has been extended by globalisation, the information age, advanced technologies and a new division of power in the world. Multidimensional methods of conducting modern warfare pose a threat, not only to soldiers, but also to civilians and societies as the whole. “Hybrid warfare” presents a unique combination of threats: conventional military operations, asymmetric warfare, irregular operations, terrorism, cyber threats and other tactics. “Hybrid warfare”, disinformation and manipulation blur the term of war and make it imprecise in the field of international law. The described activities require a multidimensional approach from all countries.*

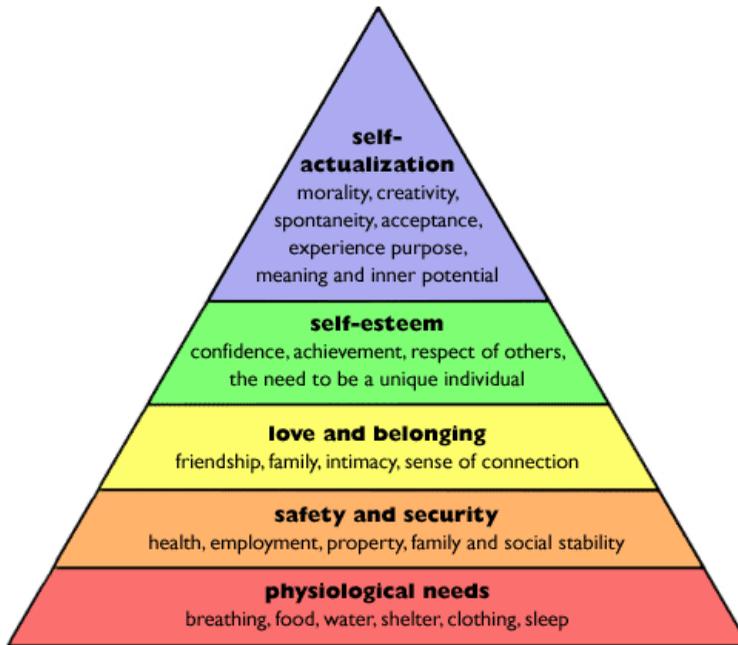
**Keywords:** conflicts in Information Era, multidimensional warfare, hybrid warfare, information war, disinformation, security environment, emotional intelligence

## Conflicts as a human activity

Conflict<sup>1</sup> derives from the Latin *conflictus*. It indicates a clash of ideas, a contradiction in aspirations<sup>2</sup>. Conflict results in the internal needs and external self-determination associated with belonging to a group. Conflict may be internal struggles or external actions, behaviour, or a fight. So conflict is an inherent feature of human nature and an inherent aspect of human activity, because of various needs and aspirations among people. The needs and their hierarchy can be analysed on the basis of the theory of A. H. Maslow's hierarchy of needs, the ERG model, R. A. Webber's model, or B. Malinowski's scientific theory of culture. The theory of the hierarchy of needs explains that basic human needs are physiological needs, then safety and security, then the needs of social affiliation and love, self-esteem and self-actualisation. According to Maslow, motivation of human behaviour is defined by two laws: homeostasis and intensification. Homeostasis refers to striving to balance the needs of the lower order. Thus, the unmet needs of the lower-order (physiological and safety needs) alter the balance of the human being, which can be restored only by meeting the needs. This causes the disappearance of tension and frustration. Intensification refers to the higher-order needs (needs of social affiliation, self-esteem and self-actualisation). Satisfaction of the higher needs, which are received by man in terms of positive feelings, increases these needs. The unmet needs are associated with growing frustration that is the basis of conflict.

**1** Social conflict is a kind of relationship between social groups (or parts thereof) that arises when their members are convinced of the conflict of interest between them and the meeting of the vital needs and interests of one group is prevented by the other group. The armed conflict takes place in a situation of contradiction between states (coalitions of states), which is solved with the use of armed violence by the armed forces. From the point of view of the forms and methods of armed violence, armed conflicts include: war, military intervention, military incident, military coup, blockade by armed forces, and demonstration of power. (Słownik terminów z zakresu bezpieczeństwa narodowego, AON, Warszawa, 2008, p. 64).

**2** A.B. Bozeman, *War and Clash of Ideas*, [in:] *Conflict, culture & history. Regional dimensions*, Air University Press, Washington, 1993, p. XV-LXIV.



*Figure 1. Hierarchy of needs (A. H. Maslow)*

The ERG model was developed by C. Alderfer. It assumes the existence of three basic groups of needs: E (existence) – existential needs, based on the material conditions of life of an individual, R (relations) – contact and integration needs, G (growth) – personality development. The Webber model presupposes the existence of the inward needs and the needs directed towards other people. The needs directed towards the environment are linked with attention to image, recognition, acceptance and belonging. The needs directed inwardly focus on autonomy, recognition for oneself and the pursuit of achievements. In youth, the external needs usually dominate. As we get older, the role of the inward needs increases. This is one of the reasons why young people are more eager to fight for the acceptance of their rights and values. The theory of culture by B. Malinowski divides needs into primary and secondary. The primary needs relate to the biological nature of man. The secondary needs are a result of cultural and social life. They are related to the existence and proper functioning of groups, including economic, normative, political, educational and political activities. According to Malinowski, the institutions which allow social groups to meet their needs are the most important element.

## The functions of conflicts

Conflicts relate to the desire to survive and meet needs and achieve a certain purpose<sup>3</sup>. The characteristics of war are the facts that the armed struggle is led by the state and the only parties entitled to the use of this term<sup>4</sup>. Conflicts and wars were present in all ages and in all civilisations. Based on an analysis of the history of nations, Raymond Aron drew up a thesis explaining that they were accompanied by continuous conflicts<sup>5</sup>. So, conflicts and wars are one of the oldest forms of human activity relating to the desire to survive and meet needs, and achieve a certain goal. According to the behavioural approach, conflict is expressed in concrete behaviour, actions, interactions, and may take more or less violent forms. They run on different levels: social, political, economic, cultural etc. Theories of conflict assume that conflicts are crucial for explaining the processes of integration and social degradation. We can distinguish the functions of conflict. According to Coser, conflicts have a bonding function, favouring the duration of a group. He also describes the role of conflicts within the group with the group outside. He emphasises that conflicts unite opponents to form alliances and coalitions, and maintain the balance of power. An important role is also played by institutions, as safety valves and ideology. Coser distinguished two forms of conflicts, real and unreal. The real conflicts refer to the unmet needs which result in frustration. The unreal conflicts refer to the conflicts that are an aim as such, which is expected to discharge tension and the created opponent can be replaced by any other object<sup>6</sup>.

3 M. Creveld, *The Art. Of War and Military Thought*, Cassell, London, 2000, p. 14-16.

4 War is a socio-political phenomenon. The term was developed in the nineteenth and early twentieth century and is an organised (prepared) form of armed conflict between states, nations, blocs of countries and organisations which are not states/nations; as a continuation of policy (ideology, religion) it means violence, whose main expression is the armed struggle in order to achieve a specific political, economic or ideological aim. War was also associated with meeting the criterion of its official termination by one of the parties (states) (Słownik terminów z zakresu bezpieczeństwa narodowego, AON, Warszawa, 2008, p. 158).

5 R. Aron, *Pokój i wojna między narodami*, Centrum im. Adama Smitha, Warszawa 1995, p. 197.

6 L.A. Coser, *Social Conflict and the Theory of Social Change*, "The British Journal of Sociology", Vol. 8, No. 3. 1957, p. 197-207.

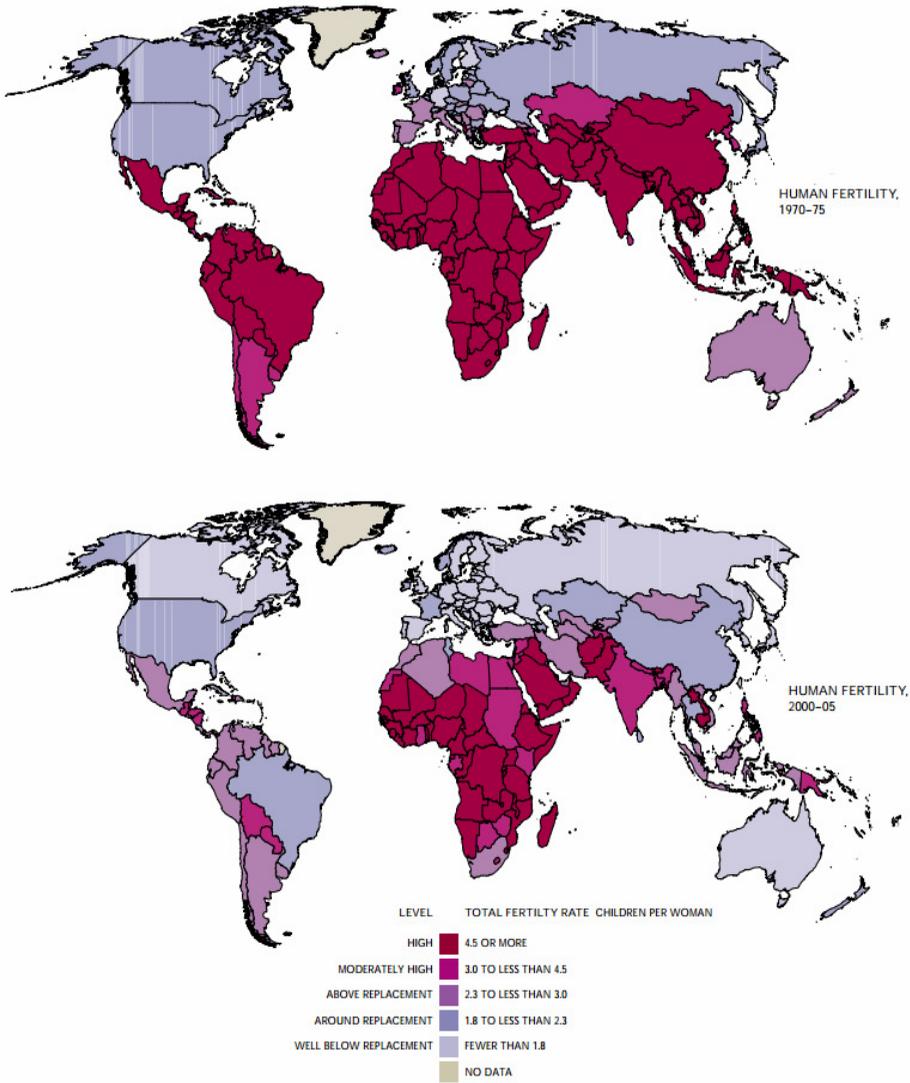
<b>The functions of conflict (Coser, 1956)</b>		
<b>Function</b>	<b>Among groups</b>	<b>Within Group</b>
2. Connection	Asserts relationship to other group	Maintains relations by releasing tension
3. Definition	Sharpens exterior boundaries (Them)	Sharpens internal boundaries (Us)
4. Revitalisation	Revitalizss mores and tradition	Underlying values of membership
6. Reconnaissance	Gets information for peace-making or war	Gets information for cooperation or persecution of deviants
7. Replication	Given a balance of power, generates similarity of structure	Generates a similarity of behaviour

**Tabel 1: K. A. Danielsen-Lang, *Lifestyle Neighborhoods: The Semi-Exclusive World of Rental Gated Communities*, p.95**

## **The theoretical basis of conflict evolution**

Conflicts evolve due to the changes in social organisation. Such views were put forward, for example, by Adam Ferguson. His conception of social development focuses on social and political relations, in which a significant factor integrating society is the presence of an external conflict. Ferguson also drew attention to the intrinsic factor based on the division of labour and changing the way of gaining a livelihood as an essential element constituting the formation of a new society. Max Weber put social stratification as the basis of social evolution. Weber, referring among other things to Emile Durkheim, appealed to the role of emotions in the process of interaction and analysis of Erving Goffman's social rituals. The used measures and techniques that determine the effectiveness of emotional appeals for solidarity have a special role to fulfil<sup>7</sup>.

<sup>7</sup> A. Śliz, M.S. Szczepański, *Konflikt społeczny i jego funkcje. Między destrukcją a kreacją*, Annales, Wydawnictwo UMCS, Lublin, 2011, p. 15.



*Figure 2. Comparison of fertility rate in 1970-75 to 2000-05 (R. P. Cincotta, R. Engelman, D. Anastasion, *The Security Demographic: Population and Civil Conflict After the Cold War*, Washington, 2002, p 25)*

One of the main factors mentioned in theories is the social, political and economic structure. This connection is also seen in the relationship between the outbreak of civil conflicts and demographic transition<sup>8</sup>. The demographic transition<sup>9</sup> originates from the development and progress in the conditions of life. There is a significant association between the demographic factor of a high proportion of young adults (aged 15 to 29), their youth bulge, the rapid growth of urban population and the likelihood of an outbreak of a civil conflict. During the 1990s, the probability of outbreaks of civil conflict in countries with a mutable demographic transition was roughly 40 percent compared to the countries of late transformation. The countries in the early and middle phases of demographic transition are more vulnerable to civil conflicts than the countries of late transition<sup>10</sup>.

It is estimated that about one-third of the countries in the world have completed transition, another third, which is about 1.5 billion people, seem to be in the early or middle phase of the transition. The main regions where transition is not completed are in the Middle East and sub-Saharan Africa. Others are straggled across Latin America and southern Asia<sup>11</sup>.

Daniel Bell described the determinism of social change caused by the development of technology<sup>12</sup>. On the other hand, Alvin Toffler presented the concept of evolution of society and conflicts based on three waves of civilisation. The first wave was described as agrarian, another as industrial, while the third as “an electronic village”. He described the characteristics of the social changes taking place in the late 1970s, pointing out that conflicts occur due to different values and social norms that are elementary to the functioning of a civilisation wave.

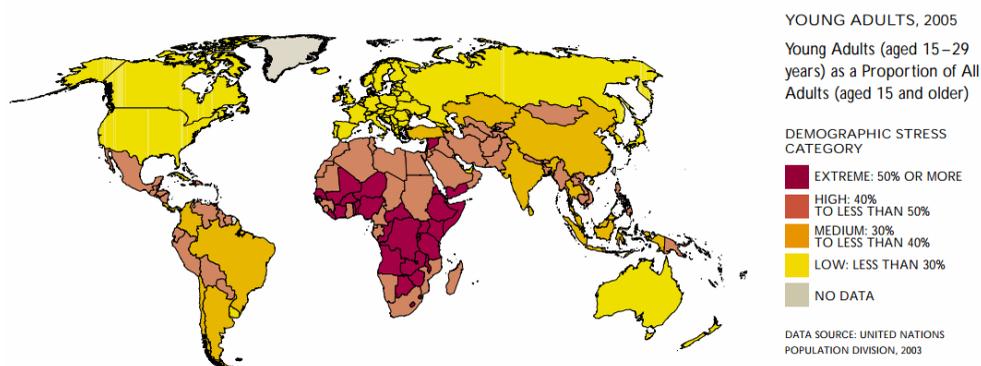
**8** R.P. Cincotta, R. Engelman, D. Anastasion, *The Security Demographic: Population and Civil Conflict After the Cold War*, Washington, 2002, p. 12-14.

**9** Demographic transition is related to the change from a population with large families and short lives to small families with longer lives. These changes in lifestyle are caused by employment, economic changes, education, circumstances of developing science and technology. Progress in life conditions affected the family model, this caused changes in relations, a new type of behaviour and the necessity to adopt to new structure conditions. Transition may constitute dissension among social groups caused by different approaches to it. (H. P. Kohler, F. C. Billari, J. A. Ortega, *The Emergence of Lowest-Low Fertility in Europe During the 1990s.*, 2002, p. 172.

**10** R. P. Cincotta, R. Engelman, D. Anastasion, op. cit., p. 27-43.

**11** R. P. Cincotta, R. Engelman, D. Anastasion, op. cit, p. 25.

**12** D. Bell, *The Third Technological Revolution and its Possible Socioeconomic Consequences*. Dissent, 1989 p. 164-76.



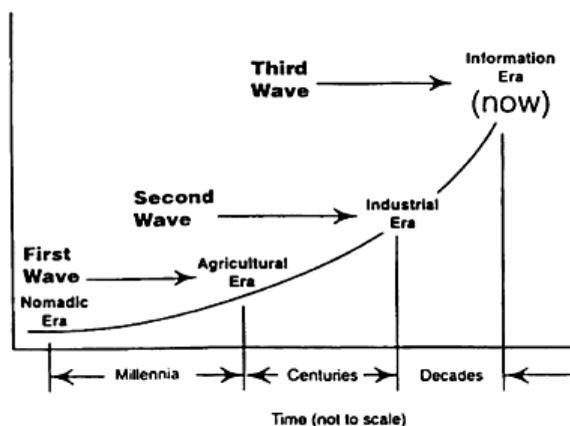
**Figure 3.** *Young adults* (R. P. Cincotta, R. Engelman, D. Anastasion, *The Security Demographic: Population and Civil Conflict After the Cold War*, Washington, 2002, p. 51)

Toffler notes that not all communities were undergoing the process of “second wave” of civilisation when the “third wave”<sup>13</sup> began to increase. The emergence of a new wave produces some changes in each sphere of social life, as each wave has a distinct awareness of reality and the shape of social relations. Thus, with the number of waves, the number of divisions of reality perception increased. The lack of sharing the same awareness generates conflicts that are observable both on the ground of individual social relationships, social groups, as well as government relations. According to Toffler, conflicts arise as a result of changes recognised by that wave of civilisation norms. In the case of the second and third wave, antagonism exists at the interface: the principles of social relations, the importance of family, the sphere of information and access to information, the economy, the approach to the banking system, the problem of corporations<sup>14</sup>, the issue of the nation-state media revolution, the importance of technology, and the approach to telecommunications. Toffler argues that the elite states of “the second wave” which apply standards in respect of the old civilisation, feel the threat of the birth

<sup>13</sup> A. Toffler, (translated by) E. Woydyłło, *Trzecia fala*, Państwowy Instytut Wydawniczy, Ed. 3, Warszawa, 1997, p. 43-114.

<sup>14</sup> The corporation within the meaning of the manufacturer’s information, and any databases. In this sense, it determines the degree of the impact of corporations on the information and thus the influence on the environment or society. Corporation as an instrument of influence on politics and ruling circles. Corporations and morality, ethics, honesty. Corporation as part of the economic system.

of a new civilisation. “The third wave”, undermining the principles of the “second wave”, antagonises each country of the old civilisation. Conflicts, according to this theory, are quite different in the perceptual and civilisation development phase. Societies try to protect their norms and principles of social coexistence against the attack of a new civilisation. Toffler points out that the change between the second and the third wave of civilisation took place relatively quickly<sup>15</sup>.



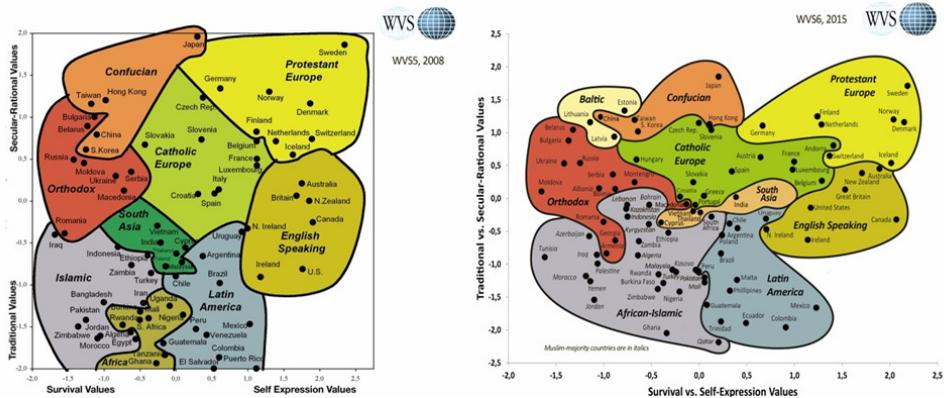
**Figure 4. Rate of change between the First, Second and Third Wave**

Ronald Inglehart and Christian Welzel conducted a study on the basis of which they have identified significant country-specific values. They singled out: tradition, secular rationality, survival, and self-expression. Religious values were the factor distinguished for certain areas. Religion is, according to sociologists and psychologists, an important element in developing the identity of an individual. Locality is a factor that helps to build the identity, and the prevailing trend of globalisation is a threat to traditional identities<sup>16</sup>. This state of affairs determines, to some extent, the phenomenon of integration and fragmentalisation<sup>17</sup> arising from a sense of mutual fear, uncertainty, threat and xenophobia. The following graphs illustrate that commitment to values is also subject to evolution.

<sup>15</sup> A. Toffler, (translated by) E. Woydyłło, *Trzecia fala*, Państwowy Instytut Wydawniczy, Ed. 3, Warszawa, 1997, p. 31-84.

<sup>16</sup> S. Coleman, P Collins *Religion, identity and change. Perspective on global transformations*, Ashgate, Burlington, 2004, p. 3.

<sup>17</sup> J. Nederveen Pieterse, *Ethnicities and Global Multiculture: Pants for an Octopus*, p. 156.



**Figure 5.** Changes in the structure of values between 2008 and 2015 on the cultural map by Ronald Inglehart and Christian Welzel (World Values Survey, <http://www.worldvaluessurvey.org/WVSContents.jsp>, 16.05.2015)

Geert Hofstede distinguished four dimensions of culture differentiating society: power distance, a sense of collectivism and individualism, femininity and masculinity, avoidance of uncertainty as well as short-term and long-term orientation. The study highlights that the culture we learn in the process of socialisation and its sources are not genes, but the social environment<sup>18</sup>. The study mentioned that the important factors include the number of population<sup>19</sup>, material situation<sup>20</sup>, corruption, and concentration of material goods in the hands of a few people<sup>21</sup>.

<sup>18</sup> G. Hofstede, *Kultury i organizacje. Zaprogramowanie umysłu*, Polskie Wydawnictwo Ekonomiczne, Warszawa, 2000, p. 17.

<sup>19</sup> Ibidem, p. 78-80.

<sup>20</sup> Ibidem, p. 178-186.

<sup>21</sup> Ibidem, p. 58-62.

## The relationship between the speed in the evolution of conflicts and social evolution, and scientific and technological developments

Zbigniew Brzezinski had already described the transition from the industrial era to the subsequent “Technotronic Age” in the 1970s. In his publication, *Between two Ages. America’s role in the Technetronic Era*, we can learn about the cause of the speed of the transition between the second and third wave of civilisation. Brzezinski concludes that the development of science and the impact of technology on human beings and society with special emphasis on more advanced countries in the world became the main source of change. The transformation, which at that time took place, especially in America, developed the post-industrial society, named by Brzezinski a “technotronic society”: a society that is shaped culturally, psychologically, socially and economically by the impact of technology and electronic systems, in particular in the field of computers and communications. Brzezinski saw that industrial processes are no longer a determinant for shaping social change. Scientific and technical knowledge, as the main factors shaping the technotronic society, is to have an impact on almost all aspects of life. The growing computational capability was designed to understand complex interactions, and the availability of biochemical agents that could serve as human control was subject to increase. New communication techniques and computing underlying societies have increased the importance and role of human intelligence and learning. The civilisation breakthrough was a vital need for the implementation of these social reforms<sup>22</sup>.

In relation to the above points, we can notice that access to scientific and technological base and economic development is an important aspect of division and antagonism between communities, beyond culture or civilisation. Societies at different stages of development have different norms and values, which they are guided by in their mutual relations. Scientific and technological development greatly influenced the transformation of operating standards, principles of interstate relations, as well as the means and methods of fighting. Lessons learned from the conflicts created in the last century are also an important factor for future conflicts.

22 Z. Brzeziński, *Between two ages. America’s role in the Technetronic Era*, Viking Compass Book, New York, 1970, p. 10.

## The evolution of conflicts in strategic thinking

Conflicts and wars have evolved along with the evolution of social organisation. The earliest surviving great war theory is the work of Sun Tzu (Sun Wu) “The Art of War” at the turn of the sixth century BC<sup>23</sup>. Master Sun reports that this conflict is initiated from negative thoughts. The aspect of proper diagnosis is emphasised. “Know the enemy and know well each other, and in a hundred battles you will experience no disaster”. The elements of the art of war are morale and motivation, the description of space in which warfare is made, the assessment of external and internal conditions, calculation, and the correct choice of means and methods of operations. Offensive fighting is considered to be extremely costly. According to Sun Tzu, an important role in the conduct of warfare is played by psycho-social factors and deceit. Defeating the enemy without a fight is praised the most. The theory of war by Carl von Clausewitz contained in the book, “On War”, also shows war as a socio-political sphere. The use of force and violence is legitimised by the desire to achieve political goals. The basis of Clausewitz’s theory was the relations between an uncountable factor (morality and psychology) and a countable one (material and physical elements playing a role during war). The nature of war assumes a moral and physical clash, which is obtained through the use of physical means. J. G. Bloch, analysing the overlapping of military technology and evolution in the nineteenth century, formulated the thesis of the unprofitability of offensive actions. The basis of the thesis was a study on enhancing the effectiveness of defensive and economic aspects. Bloch proved the same lack of profitability of offensive actions<sup>24</sup>. According to Mary Kaldor, conflicts can be divided into “old wars” and “new wars”. The “old war”, according to Kaldor, was based on the ideas of Carl von Clausewitz and the relationship between the war and development of a modern nation-state and formation of cadres of trained soldiers. The “new war” (e.g. Somalia, Serbia, Chechnya, Afghanistan, Iraq) originates from globalisation and regionalisation, the phenomenon of cosmopolitanism and particularism, the economic sphere of paradigm of warfare and the new types of private armies<sup>25</sup>.

23 *Słownik terminów z zakresu bezpieczeństwa narodowego*, AON, Warszawa, 2008, p. 158.

24 J.G. Bloch, *Przyszła wojna pod względem technicznym, ekonomicznym i politycznym*, ed. G. P. Bąbiak, PISM, Warszawa, 2005, s. 57.

25 M. Kaldor, *New and Old Wars, Organized Violence in a Globalized Era*, Stanford University Press, Cambridge, 2007.

M. van Creveld concludes that, in the twenty-first century, we have entered an era in which not only a country represents a threat to another, as shown in the example of the US actions in Iraq and their ineffectiveness. He also points out that, in the twentieth century, a threat for a superpower is posed only by another superpower. He stresses that the strategists of that time had not considered a situation in which a threat could have come from another source<sup>26</sup>. Today's conflicts, according to Albert Palazzo and Antony Trentini, are characterised by stalemate. Despite having a technological advantage, military actions prove to be ineffective. The role in the implementation of warfare is to understand the nature of war. There are currently two approaches to the characteristics of conflicts in the twenty-first century. The first one assumes that the nature of war has changed; in order to understand them, you need to identify the factors and predict their impact on the conduct of future military actions. Defining the conflict as a "hybrid war" is an example of such an approach. The second approach assumes that war in its essential nature remains without substantial changes<sup>27</sup>. An analysis of the conflicts emphasises the important change that we can observe in the twenty-first century. They show the change in parties and forces involved in conflicts, means and tools of fighting. A question related to new threats, their activity area, dimensions of conflicts and their evolution arises.

## Hybridization of conflict and its implications

Society had to adapt to the new challenges of deriving conditions. The way of conducting conflicts that Hoffman called the "hybrid war"<sup>28</sup> also adapted. This theory is the result of the analysis of the US geopolitical situation. The concept assumes that the US faces an era of enormous complexity. This complexity derives from globalisation, proliferation of weapons, advanced technology, transnational

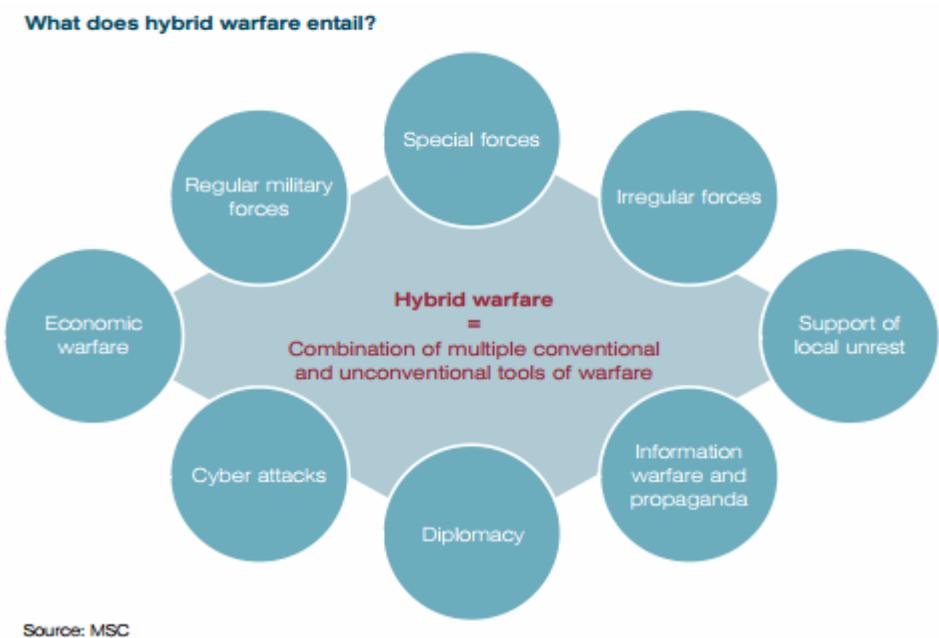
<sup>26</sup> M. Creveld, *Zmienne oblicze wojny. Od Marny do Iraku*, REBIS, Poznań, 2008, p. 9-11, 326-329.

<sup>27</sup> A. Palazzo, A. Trentini, *Hybrid, complex, conventional, fourth-generation counterinsurgency. It's Decision that Still Matters Most*, "Australian Army Journal", Vol. 7, No. 1, 2010, p. 74.

<sup>28</sup> F. G. Hoffman, *Hybrid Warfare and Challenges*, "Joint Forces Quarterly", No. 52, NDU Press, Washington, , 2009, p. 34-39.

extremist activities and resurgent powers. The hybrid war has a complex dimension that combines:

- the classic use of force and military methods,
- irregular military operations (irregular forces, sabotage, subversion, terrorist attacks),
- cybernetic, information and economic fight, as well as other forms of struggle.



*Figure 6. Munich Security Report 2015, Collapsing Order, Reluctant Guardians?, MSC, 2015, p. 35*

Complex conflicts have synergy and numerous combinations at the strategic level but do not have the harmonisation, operational and tactical level. Hybridisation at the operational level can be understood as the coexistence of elements of the “old” and “new” conflicts, combining classic armed conflicts based on national armies with clashes between militant groups (asymmetric conflicts), the use of available modern technologies and the use of simple tools for fighting, fighting over territory and resources, disputes over the identity and values, confrontation of particularism and cosmopolitanism. The full range of tactics, methods, ways and means of conducting a conflict is used on the battlefield. Hybridisation can be seen through the prism of the warring parties (states, a group sponsored by

a state, non-state actors, an irregular armed group, self-financed bodies, groups of interests). Hybridisation can also apply to the conduct of conflict (real and cyberspace). Hybridisation can relate to the complex nature of conflict and a combination of various antagonistic elements (social, political, economic, informational, environmental). Hybridisation<sup>29</sup> of conflicts results from the space and time coexistence of different types of wars that intertwine and confront on the battlefield and in operations other than warfare<sup>30</sup>.

## Time and space conflicts and new threats

There is also a significant change in warfare space, as well as in the means and methods which are used. In the information age there is a real space and a new virtual space. Cyberspace and the media revolution provided access to more information. Geopolitical changes related to the end of the Cold War<sup>31</sup> led to the increase of uncertainty, lack of predictability and clarity on the level of global, regional and local relationships<sup>32</sup>.

The condition for the occurrence of war is the existence of at least two antagonistically oriented sides<sup>33</sup>. Warfare as fighting in real space with the use of conventional forces aims at the survival of the state, a desire to maintain control, ensure social order, natural resource management, economic activity of the state and governance to living people. The amount of state actors constitutes a specific set, which can be relatively defined by factors of strength and power, by means of

29 R.G. Walker recognizes hybridity as a combination of conventional warfare and special operations ( R. G. Walker, *The United States Marine Corps and Special Operations*, Storming Media, Monterey, 1998, p. 4-5) J. J. McCuen states that hybridity is a combination of symmetric and asymmetric warfare (J.J. McCuen, *Hybrid Wars*, Military Review, No. 2, 2008, p. 108).

30 A. Gruszczak, *Hybrydowość współczesnych wojen – analiza krytyczna*, [in:] ed. B. Zapała, *Asymetria i hybrydowość – stare armie wobec nowych konfliktów*, W. Sokała, Biuro Bezpieczeństwa Narodowego, Warszawa 2011, p. 9-17.

31 M. D. Cavalty, *The Militarisation of Cyberspace: Why less may be better*, Center for Security Studies, Zurich 2012, p. 144-145.

32 D. C. Gompert, I. Lachow, J. Perkins, *Battle-Wise Seeking Time-Information. Superiority in Networked Warfare*, NDU Press, Washington, 2006, p. 13-20.

33 Z. Polcikiewicz, *Właściwości przyszłych wojen oraz ich implikacje społeczne*, Zeszyty Naukowe WSOWL, No. 1 (163), Bydgoszcz, 2012, p. 96-97.

Powermetrics research, and with the help of geopolitics. The asymmetrical fight is characterised by the changing dynamics and intensity of activities. There is also a difficulty in identifying the enemy, the way to carry out actions, the enemy's forces and military potential. The difficulty also lies in identifying a potential area for operations. Thus, an asymmetric battle space is blurred and not fully identified<sup>34</sup>. The occurring factors of fighting resulted in the need to streamline the way of command. Contemporary conflicts are challenged with a comprehensive and cognitive approach to solving them. The information era also contributed to the shift in understanding the notion of power<sup>35</sup>.

Fighting in the virtual (cyber) area changed the face of conflicts. The virtual environment provides an area for transmitting information that permeates almost all spheres of life (social, political, military, economic, financial, cultural, psychological and ideological, etc.). William Gibson saw that virtual reality is a new dimension of human existence. He described cyberspace as "hallucinations of all the senses experienced daily by billions of people in every country"<sup>36</sup>. Pierre Levy recognised cyberspace as an "open space for communication through interconnected computers and computer memory operating worldwide"<sup>37</sup>. On the other hand, Manuel Castells considers the virtual reality to be "a system in which the same material and existential reality of people is completely caught and immersed in a virtual system of images"<sup>38</sup>. An important factor is a sense of realism in relation to the virtual reality and the blurring effect of virtual and real incentives. Thus, the virtual space provides an ideal environment for unconscious manipulation. This space also allows for an unlimited number of transformations of contacts, images and content. Marian Golka defines the possibility of exceeding the traditional spheres, cultural differences and artistic genres as virtual hybridity. Due to the multitude of participants, this space is also the field of social divisions

34 L. Seaquist, *Community War*, Naval Institute Proceedings, August 2000, p. 56.

35 M. Dunn, *Information Age Conflicts, A Study of the Information Revolution and a Changing Operating Environment*, No. 64, Zürcher Beiträge, ETH Zürich, 2004, p. 20-21.

36 J. O. Green, *Nowa era komunikacji*, transl. by P. Głowacki, Prószyński i S-ka, Warszawa, 1999, p. 122.

37 P. Levy, *Drugi potop*, translated by [in:] ed. M. Hopfinger *Nowe media w komunikacji społecznej w XX wieku*, Ofinyna Naukowa, Warszawa, 2002, p. 380.

38 M. Castells, *Spółeczeństwo sieci*, PWN, Warszawa, 2007, p. 378.

and changes in social structures. In cyberspace it is not possible to determine the number of adversaries, their strength and means of fighting<sup>39</sup>.

Contemporary armed conflicts are increasingly using the manipulation of images and information. According to the sociologist Herbert Schiller, manipulation is a tool of conquest and the oldest of its forms recognises ideologies<sup>40</sup>. Fabrice d'Almeida referred to manipulation appearing in the eighteenth century, but, according to Schiller, it appeared in the nineteenth century with the discountenance of the use of physical oppression as an instrument of influence on society. The use of manipulation as a weapon of war was intensified after the Second World War and with the onset of the Cold War. The information fight is associated with the dissemination of radio and television as a medium.<sup>41</sup> The information age enlarges the role of media and its influence on human behaviour and the way of thinking<sup>42</sup>. The role of media also has grown along with the intensification of asymmetric warfare. J. Baudrillard emphasises the mass-media and multi-level disinformation. Remittances are to create a picture of reality, which, as a result, in Baudrillard's opinion, means that "we are entering into the world of pseudo affairs, pseudo culture, and pseudo history". Contemporary armed conflicts are increasingly using images, manipulation of information and misinformation<sup>43</sup>.

## Disinformation and manipulation

Information derives from the Latin *informatio* which means an idea, a notification, an explanation. The term is considered to be a code with hierarchical features: statistical, semantic, syntactic, pragmatic and apobetic<sup>44</sup>. Statistics is the study of reorganisation, semantics relates to the content and meaning, syntax examines the

39 M. Golka, *Bariery w komunikowaniu i społeczeństwo (dez)informacyjne*, PWN, Warszawa, 2008, p. 23-33.

40 H. Shiller, *Sternicy świadomości*, transl. by U. Szczepańczyk, OBP, Kraków, 1976, p. 13.

41 J. Baudrillard, *Spółczesność konsumpcyjna, jego mity i struktura*, transl. by S. Królak, Warszawa, 2006, p. 159-164.

42 M. Castells, *Władza komunikacji*, PWN, Warszawa, 2013, p. 65-144.

43 H. Munkler, *Wojny naszych czasów*, Wydawnictwo WAM, Kraków 2004, p. 39.

44 T. Gospodarek, *Aspekty złożoności i filozofii nauki w zarządzaniu*, Wydawnictwo Wałbrzyskiej Wyższej Szkoły Zarządzania i Przedsiębiorczości, Wałbrzych, 2012, p. 104.

logical relationships of the system, their mutual formation and transformation, pragmatism determines the usefulness and value of messages for the aim pursued by the recipient, and apobetics examines the purpose of the information sender<sup>45</sup>. Norbert Wiener is the author of the assertion that the information does not constitute the material. Wiener states that information is not matter or energy. Information is defined by Wiener as the content that is derived from the external world by the adaptation process and by adapting the senses. Receiving and using information is part of the adaptation to the external environment and is the factor enabling an active life in that environment<sup>46</sup>.

Communication<sup>47</sup> is an essential tool to enable the articulation of the socio-biological needs of man, while it is a vehicle for transmission. One of the forerunners of research on communication was Charles Cooley, who introduced this concept to scientific literature in 1894. Communicating was defined as a mechanism for the existence and development of human relationships. He also explained that the symbols produced by the human mind are transmitted in a given space and time<sup>48</sup>. George Miller determined that “communication means the transmission of information from one place to another”. He distinguished 5 elements in this process:

- source – the sender of the message;
- emitter – a biological system or an artificial device that enables the exchange of information on the form of energy possible to transfer;
- channel – a means that provides a spatial and temporal range between the sender and the recipient;
- receptor – a processing system that allows the signal emitted in the form of some energy to be transformed into information;
- target – the receiver or the audience of the information<sup>49</sup>.

45 W. Gitt, *Am Anfang war die Information*, SCM Hänssler, Holzgerlingen, 2002, p. 92.

46 G. Nowacki, *Współczesne poglądy za prowadzenie walki informacyjnej*, AON, Warszawa, 2001, p. 9.

47 Communication derives from Latin *communico, communicare*, it means a transfer of information, to make a joint, forward a message, to confer. Noun communion means the sense of communication, community. (J. Niñołajew, G. Leśniewska, *Jak usprawnić komunikację w przestrzeni społecznej*, “Master of Business Administration” (116), Warszawa, 2011, p. 44).

48 J. Niñołajew, G. Leśniewska, *Jak usprawnić komunikację w przestrzeni społecznej*, “Master of Business Administration” (116), Warszawa, 2011, p. 44.

49 Z. Nęcki, *Komunikacja międzyludzka*, ANTYKWA, Kraków, 2000, p. 20.

C.E. Shannon, regarded as the creator of information theory, analysed the information transmission system consisting of five elements: the sources of information, the transmitter signals, the signal transmission channel, the receiver and the destination information, and spotted a problem of sources of interference that are making some noise in the setting information transfer<sup>50</sup>.

There are three groups of actors that perform manipulation on a massive scale:

- public institutions;
- private organisations, based on the company's profit, including Public Relations (PR) companies;
- social, non-profit or humanitarian organisations, whose funding is not fully known<sup>51</sup>.

The contemporary armed conflicts are increasingly using images, manipulation of information and disinformation<sup>52</sup>. Compilation impacts on vision and hearing, acting as receptors used for receiving information, which is intended to influence the imagination. Imagination acts as the centre of manipulation. The impact of manipulative actions is based on emotions, stimulating enthusiasm or fear<sup>53</sup>. Emotional intelligence is an important aspect of cognitive proper judgment. All the disorders cause an increase in tension and anxiety<sup>54</sup>. Risks arise from the impacts on the psychological sphere, which has a significant influence on intergroup relations. Psychological distress is related to distorting human well-being, resulting from the infringement of essential human needs and expectations. There are two categories of factors affecting the psychological insecurity<sup>55</sup>. The first one involves the unmet needs of the human person, while the other is caused by intergroup prejudice that may have its origins in the first category.

**50** G. Nowacki, *Współczesne poglądy na prowadzenia walki informacyjnej*, AON, Warszawa, 2001, p. 9-12.

**51** P. Daniluk, *Współczesny wymiar konfrontacji informacyjnej*, *Rocznik Bezpieczeństwa Międzynarodowego*, Vol. 8, No. 2, Warszawa, 2014, p. 43.

**52** H. Munkler, *Wojny naszych czasów*, Wydawnictwo WAM, Kraków 2004, p. 39.

**53** P. Daniluk, *Współczesne wymiary konfrontacji informacyjnej*, *Rocznik Bezpieczeństwa Międzynarodowego* 2014, Vol. 8, No. 2, p. 38.

**54** M. Castells, *Władza komunikacji*, PWN, Warszawa, 2013, p. 153-172.

**55** M. Kofta, M. Bilewicz, *Wobec obcych, Zagrożenia psychologiczne a stosunki międzygrupowe*, PWN, Warszawa, 2011, p. 7.

The second category of factors affecting the psychological insecurity refers to prejudice<sup>56</sup>. In this category, there are two main sources of psychological threats, which were identified as:

- frustration, which may contribute to hostility toward other groups;
- intergroup conflict of interest that leads to a fight for certain limited goods.

The theory of social identity by Henry Tajfel and John Turner gave special attention to the human quest for positive perception on various levels of social life. They assumed that:

- the main motivator for people is to strive to maintain positive self-esteem;
- self-esteem and social status result from belonging to a certain group, a higher group status is connected with a sense of higher status by its members;
- shaping a positive identity based on the comparisons between groups, thereby members favour their own group and diminish the value of the "foreign" group<sup>57</sup>.

The struggle undertaken in the area of information may be aimed at: a call for social unrest, and destabilisation of the political, social, financial, or economic system. The informational game applies to many areas of both the social and state sphere. The state information fighting is associated with the inspiration and disinformation hazards directed to:

- the government and society;
- telecommunication devices, the network and unauthorised access to classified information.

The information fight may also take the form of building certain influence groups inside and outside the state as a tool of manipulation<sup>58</sup>. The game objective is to neutralise the information barriers that stand in conflict with the vested interests and the approved plans. Activities can focus on trying to gain trust and favour or on inspiring discontent toward inconvenient people<sup>59</sup>.

<sup>56</sup> Gordon Allport in the *Nature of Prejudice* (1954) formulated a thesis that prejudice is a negative reaction, which is expressed to foreign groups. Prejudice was also understood in the category of emotional focus on the negative traits of foreign groups.

<sup>57</sup> C.N. Macrae, Ch. Stangor, M. Hewstone, *Stereotypy i uprzedzenia. Najnowsze ujęcie*, Gdańskie Wydawnictwo Psychologiczne, Gdańsk, 1999, p. 55.

<sup>58</sup> L. Bełz, *Gra informacyjna o wpływy i dominację*, BBN, No. I, Warszawa, 2011, p. 29-31.

<sup>59</sup> L. Bełza, *Główne zagrożenia w obecnym i przyszłym środowisku bezpieczeństwa pozamilitarnego*, BBN, No. II, Warszawa 2011, p. 128.

In cyberspace, the forms of attacks include: breaking the procedures for information exchange, manipulating information (misinformation, concealing, distorting), an unauthorised use of information resources (databases), copying and destruction of the collected data, and mass destruction of the system software. According to Wine Schwartz, the information fight includes activities whose objective is to protect, use, damage, destroy information or its resources, deny information in order to achieve significant benefits, some goals or a victory over an opponent<sup>60</sup>. The tools and methods for fighting the information can be: computer viruses, logic bombs, blocking the exchange of information in communication systems, falsifying the information contained and transmitted in the communication system of the opponent, the introduction of crafted (biased) information into circulation through the mass media and government or military communications channels<sup>61</sup>. It should be noted, however, that the technology has not provided a solution for the lasting nature of war. Technology is only one of many different types of gear and always will be. Conflicts are run, created and controlled by human activities<sup>62</sup>.

## The role of information in the decision-making process

Receptors receive information with sight and hearing, which builds imagination in varying degrees, acting as the centre of manipulation in the human mind. The impact is based on fear and enthusiasm. The influence on emotions and simplification of reality are an important element to manipulate the recipient<sup>63</sup>. Upset is the ability of rational perception of reality in favour of the image created by the media. Information exists in the indissoluble link with the human mind. Information as a perceptual stimulus causes the creating of an image of an object

<sup>60</sup> W. Schwartz, *Information Warfare*, 2nd ed., Thunder's Mouth Press, Washington, 1996, p. 12.

<sup>61</sup> P. Gawliczek, J. Pawłowski, *Zagrożenia asymetryczne*, Wydawnictwo AON, Warszawa, 2003, p. 42-43.

<sup>62</sup> A. Palazzo, A. Trentini, *Hybrid, complex, conventional, fourth-generation counterinsurgency. It's Decision that Still Matters Most*, "Australian Army Journal", No. 1, 2010, p. 77.

<sup>63</sup> P. Daniluk, *Współczesny wymiar konfrontacji informacyjnej*, Rocznik Bezpieczeństwa Międzynarodowego, Vol. 8, No. 2, Warszawa, 2014, p. 38-39.

in the mind of the recipient, which reflects the image of material or abstract things, reminds one of the stimuli, all other sensations, and states registered at the input of the receiver. In relation to human beings, Leopold Ciborowski calls them signals. Every piece of information represents a particular form of signal which, in addition to the distinctiveness of common features that are appropriate for the signal and the information, is still a property of the human mind for inspiration to create some ideas<sup>64</sup>.

The obtaining, holding, and processing of information serve the objectives of human cognition. The result of cognitive processes is knowledge, views, opinions, and judgments that we have. The quality of information is an important factor for the quality of our knowledge of the world around us and the phenomena and processes. Thus, it constitutes an important aspect of our wisdom or distorted images of reality. Information can give impetus for taking a specific action or abandoning it<sup>65</sup>. The ability of an adequate approach and the understanding of the information depend on access to the truth. Therefore, information on the past and the present is important. Generating a message based on a mixture of truth and fiction, we affect the ability to perceive objective reality. The process of globalisation and access to the media affect the dependence of the recipient on the centres of information transfer, data supplied by numerous centres of communication. These centres create views, opinions, views on the world, and values of societies. Information is the strength of the one who has it. The source of power is not only the access to information, but also the possibility of interpretation or manipulation<sup>66</sup>.

Information also constitutes an important factor in the effectiveness of the decision-making process. Access to data contributes to the perception of a situation, an event, people in terms of a threat or the lack of it. Information can give impetus to take a specific action or to abandon the adopted solutions; different performance may be obtained on the basis of the same data.

64 L. Ciborowski, *Walka informacyjna*, Europejskie Centrum Edukacyjne, Toruń, 1999, p. 58-59.

65 R. Kwećka, *Informacja w walce zbrojnej*, Wydawnictwo AON, Warszawa, 2001, p. 6.

66 Ibidem, p. 57-58.

## Disinformation

The theoretical foundation of the information society underlines the need for access to as much information as possible<sup>67</sup>. The concept of the information society focuses on the general social and technological level. Man in theoretical considerations is treated as part of a broader context. Piotr Nowak and Paul Nowakowski see, in this sense, a gap. Indeed, they relate to the needs of the biological information at the level of the human individual. The man is understood by P. Nowak and P. Nowakowski as an element of nature; therefore, they are contesting the linking of human behaviour as conditional symptoms with culture only, which is becoming more and more common in modern science. The human body uses limited amounts of existing information, it is associated with energy consumption and the computing power of the body to sustain life processes. The receptors of the human body reduce pieces of information, capturing mainly those existentially necessary. According to Richard Tadeusiewicz, only one in several million of the reaching information participates in the conscious process of analysis. Tadeusiewicz claims that such a small percentage of information is deliberately processed in the cerebral cortex area responsible for the intellect<sup>68</sup>. An important aspect of the information society is the upbringing and education process. As far as the biological level is concerned, genetic factors play an important role. Geneticist, R. Dawkins, saw a similarity between genes and memes in the 1970s. Dawkins' concept was based on the assumption that, like the genes which a person receives from their parents, memes are obtained by the copying, storing, imitation, transmission and dissemination of certain patterns and ideas contained in the memes. The category of memes includes political ideas, as well as scientific theories, religious doctrines or clothing trends and listening to music. In memetics, it is assumed that we do not make choices and decisions in a manner consistent with our free will. According to Dawkins' concept of memes, genes and memes have the same property, which is the ability to replicate. Replicating the memes occurs through imitation. Replication processes take place in accordance with the epidemiological pattern spread of the virus, independently of our will. Another feature common for genes and memes is their unconscious influence

<sup>67</sup> M. Castells, *Spoleczeństwo sieci*, PWN, Warszawa 2007.

<sup>68</sup> R. Tadeusiewicz, *Biocybernetyka*, Ossolineum, Wrocław, 1988, s. 53.

on decision-making. According to the research, e.g. by Benjamin Libet or Daniel Wegner, every human decision-making process is a brain reflex dictated by genetic needs, it is not the result of decision-making autonomy<sup>69</sup>.

## Summary

Armed conflict is no longer the primary means of imposing political will on others. Today, such means are intended, formal and informal activities called informational games, which have a destructive influence on the economy and financial systems, and cause social and political unrest. Information and its processing have become a tool, and even a premise to fight. Information security is not only the physical problems of network security and IT devices concerning unauthorised interference, but it is also the protection of classified information and the related matters of cryptographic protection. Currently, it also concerns, and perhaps above all, the problems of inspiring and disinformation threats, trade information, social manipulation and the construction of informal spheres of influence in the systems inside and outside a country<sup>70</sup>.

The army in the twenty-first century should have the ability to carry out activities which take into account the future combat system, information technology, modern and intelligent equipment, comprehensive utilisation of IT support and information. The assumption may be carried out based on the development of intelligence centres, combining the features of military intelligence with counter-intelligence, risk management, threats, monitoring of the battlefield, and determining the objectives and priorities<sup>71</sup>.

Access to knowledge, scientific and technological bases and economic development are important aspects of division and antagonism between communities, apart from the cultural, religious or civilisation determinants. Societies at different stages of development have different norms, values, which they are guided by in their

<sup>69</sup> P. Nowak, P. Nowakowski, *Człowiek a potrzeba informacji. Kilka refleksji na marginesie założeń teorii społeczeństwa informacji*, 2006, s. 162-165.

<sup>70</sup> L. Belz, *Gra informacyjna o wpływy i dominację*, BBN, No. I, Warszawa, 2011, p. 29-31.

<sup>71</sup> R. Kwećka, *Informacja w walce zbrojnej*, Wydawnictwo AON, Warszawa, 2001, p. 64.

mutual relations. Scientific and technological development has greatly influenced the transformation of operating standards, and rules in relationships. Scientific and technological bases have also become an important aspect of gaining advantage in the information process. The information era has also allowed other actors, such as companies or individuals, to make use of technological developments, thus defining the power of countries<sup>72</sup> has changed.

One of the main challenges is that most of the adversaries are non-nation or non-state actors. Nowadays, enemies use hybrid, asymmetric tactics and information warfare. New adversaries have become adept at using asymmetric tactics as methods to give them an advantage in conflict. Relative strength is situational. It is based on time, speed, location and conditions. These assets are more difficult to determine and provide strength in different circumstances. A party who is weaker in resources or complex command and control systems can offset this with considerable cleverness, morale, offensive posture, safety, surprise, flexibility and tactics that fit the task<sup>73</sup>.

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