

# **SCIENTIFIC RESEARCH**



# THE POWER AND THE SECURITY – SELECTED ISSUES

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“I often say that when you can measure what you are speaking about, and express it in numbers, you know something about it; but when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meagre and unsatisfactory kind; it may be the beginning of knowledge, but you have scarcely in your thoughts advanced to the state of *Science*”

Lord Kelvin, English physicist and a member of the House of Lords,  
1824–1907

## **Abstract**

*In this article, the author presents some common areas for the categories of power and security. Diagnosis of the security environment of a political unit should include both A qualitative and quantitative approach to the assessment of its power and that of neighbouring countries. Such comparisons of balance of power between the countries give the security assessment a broader range. it may be used, in addition, by design for the foreign and security policy of a state.*

**Keywords:** power, powermetrics, security, measurement

## **Introduction**

This article is an attempt to determine (establish) the relationship between the power of the state and the security. The category of power, which is one of main issues of both geopolitics and the theory of international relations, is also

seeking a place in the science of security. It is also possible to find statements that international relations will only become a science as ultimate quantitative measures are established for its most important variable - national power<sup>1</sup>. Dependences resulting from the power owned by a political unit will be shown based on the possibilities of using selected methods of powermetrics of the quantification of this category. The methodology proposed by the author will serve mainly for making a diagnosis of the security of states. So, thus, the central category of the article is power in the context of its meaning in the environment of international security along with the possibilities of its measurement. The article is divided into two parts. In the first, the author describes interpenetrating categories of power and security, and in the second describes the division and characteristics of chosen methods serving the measurement of power.

## About the issues

The first tests of measurement in the relations between states were carried out in ancient times. Sun Tzu wrote, that “methods of war are as follows: the first is the measurement of distances; the second the valuation of armies; the third determines the strength of the army; the fourth the relative estimating powers; and the fifth is a victory”<sup>2</sup>. He further adds that: “a penetrating analysis of the strength of the opponent is performed to estimate profits and losses”<sup>3</sup>. In the New Testament we can find fragments referring to the measurement: “If a king goes out with ten thousand men to fight another king who comes against him with twenty thousand men, he will sit down first and decide if he is strong enough to face that other king”<sup>4</sup>. These examples refer to the relationship between states in a strictly military dimension. The development and dynamics of the international circle meant that, with time, attempts were made to make the measurement of the power of the state not only in a military dimension, but, more widely, they

1 N.Z. Alcock, A.G. Newcombe, *The perception of national power*, “The Journal of Conflict Resolution”, vol. 14, no. 3 (September) 1970, p. 3.

2 Sun Tzu, *Sztuka wojny*, Wydawnictwo Helion, Gliwice 2013, p. 33.

3 Ibidem, p. 46.

4 New Testament *Lc. 14,31*.

were trying to assess the general power of the political individual. Peculiarly, after World War II, researchers have more and more often undertaken attempts to create computational models of the power of states. About 70 models and approaches to the quantitative study of state power were established<sup>5</sup>.

Powermetrics methods, understood as those which refer to a quantitative including the category of power in the literature on the subject, clearly weren't classified. The term of powermetrics refers to the subdiscipline of geopolitics - powermetrics (pl. potęgomietria), dealing with the measurement of the power of participants in international relations as well as the modelling, simulations, forecasting of the international arrangement of powers as well as geopolitical calculations mainly in the quantitative dimension<sup>6</sup>. Powermetrics methods will, therefore, be approaches that focus on the quantification of the category of power with models and methods of calculation. It is worthwhile emphasising that analytical centres and research institutions of the biggest states of the world deal with measuring the category of power and are developing their own methodologies for its measurement. It is worth mentioning the American think tank, the Rand Corporation<sup>7</sup>, and the Russian International Academy of Research on the Future and the Institute of Economic Strategies<sup>8</sup>. In other states, an indigenous research methodology is also being developed above the quantitative, including the power of states, as well as the possibilities of the influence of states in the international environment. It is possible to distinguish the Indian approach (Virmani's model, Geopolitical Intelligence Review model), the American approach (CIA/Ifs model, Cline's model), the Russian approach

5 Referring to doctoral dissertation of Karl Hermann Höhn "Geopolitics and the Measurement of National Power" defended on the University of Hamburg in 2013. <http://ediss.sub.uni-hamburg.de/volltexte/2014/6550/pdf/Dissertation.pdf> (06.03.2016 r.).

6 This term (powermetrics) was suggested in 2001 by Miroslaw Sułek in the book "Podstawy potęgonomii i potęgomietrii". Besides the term powermetrics, the researcher also suggested the term powernomics, which understands the learning regarding the power of political individuals, its existence, signs, criteria of world power status, ranking of political units on account of the profile of their power, with geopolitical calculations mainly in the quantitative expression. Names of subdisciplines in Polish science suggested by Miroslaw Sułek in the discourse about international relations and geopolitics.

7 Rand Corporation published papers, among others: *Measuring National Power*, G.F. Treverton, S.G. Jones; *Measuring National Power in the Postindustrial Age*, A.J. Tellis, J. Bially, Ch. Layne, M. McPherson, J.M. Sollinger.

8 It is worthwhile here quoting cyclically published reports *Global Rationg of Integral Power of 100 Countries*.

(Chaczaturow's model, the rate of the potential of the international influence), the Japanese approach (model of the Japanese Office of the Economic Planning), and the Chinese approach (model of the Chinese Academy of the Social Science, Centre of Chinese Research, Chinese Military Academy). The centres mentioned above are appointing people to higher public places, political decision-makers and servicemen (soldiers leaders.). Also, in Poland, mainly due to the publication "Podstawy potęgonomii i potęgometrii" (2001) by Mirosław Sułek, research on the power of states has begun to develop<sup>9</sup>. Studying the literature on the subject provides rich methodology of the measurement of the power of states based, above all, on science regarding international relations and geopolitics. A multitude of models and approaches - often considerably different - means that it is practically impossible to authenticate permanent variables of powermetrics factors that serve to estimate the power of the states<sup>10</sup>. In the scientific community, there are also considerable controversies regarding any attempt to measure the power of the state, as a category too abstract and impossible to express in numerical values<sup>11</sup>. Such an approach is largely due to not entirely properly connecting terms of measurement and power. It is worthwhile referring to Douglas W. Hubbard, who rightly notes that every observed phenomenon can be measured. What's more, the measurement is a kind of information and can support decision making, especially in situations of great uncertainty, which could have significant consequences, even in the case of a small reduction in uncertainty<sup>12</sup>. It is happening this way with decisions made at government level concerning foreign policy and security. The measurement defined as "quantitatively expressed reduction of uncertainty, based on one or more observations"<sup>13</sup> fits well with the quantitative research of

<sup>9</sup> It is worthwhile here quoting published books by Mirosław Sułek: *Prognozowanie i symulacje międzynarodowe, Potęga państw. Modele i zastosowania. Potęgometria* (ed. M. Sułek, R. Kobryński) was published in Poland and the report *Potęga 2015. Międzynarodowy układ sił w procesie zmian* (ed. M. Sułek, R. Kobryński).

<sup>10</sup> Powermetrics factors are understood as the factors determining the power of the state, which can be used in making the quantitative category of power.

<sup>11</sup> The skeptics are, among others K. Knorr, *Military Power and Potential*, Lexington, Mass. 1970; D.S. Papp, *Contemporary International Relations: Framework for Understanding*, New York, 1984; while S. Guzzini considers measuring power as a unnecessary, *On the Measure in International Relations*, DIIS Working Paper, 2009.

<sup>12</sup> D.H. Hubbard, *Pomiar uniwersalny*, MT Biznes, Warsaw 2013, translated Urszula Zinserling, p. 17-38.

<sup>13</sup> Ibidem, p.43. I strongly agree with the author and his approach to the concept of measurement: "You can solve the dilemma of measurement. The question "how much" gives

power and international relations based on this category. Therefore, it is worth considering the measurement of power on the line as a right seeking connection (evaluation: diagnosis, and, in the long term, prognosis of the security of states, as the challenge undertaken as part of the trend towards the multidimensionality of security category. The author of this article does not aspire to be an expert, whom by goal is the identifier of all common surfaces for the sciences about security and the category of power included in the quantitative expression. The author only focuses on the connections between security and power for measuring this category.

Further to the above, the author determined to deal with problems relating to:

1. Finding a common ground for research into the category of power and security?
2. Using selected powermetrics methods that might be useful in assessing the security of the state?

In order to answer such questions, the author will describe common factors for both security and power. The selection of powermetrics methods will be shown in the next part (in the article in the next volume), which includes: formal models of the power of states, indexes derivative of power, multidimensional methods of evaluation of basic military categories and analysis of these statistical measures of the power of the state. They are not, of course, all elements that are possible to identify with powermetrics methods. According to the author, however, they belong to those that deserve particular attention.

## **What is Common for Power and Security? Excerpt from the theory**

Discussions about powermetrics methods, of which a category of power remains for the centre of interests, should first of all explain what it is. Thus, in the literature no consistent definition of power occurs, just the opposite - there are

each issue a valuable dimension. So, you can deal with measuring the most controversial aspects in business, politics or private life, when you understand the consequences of lack of measurements “ (p. 70).

many of them. However, it is possible to separate certain common characteristics of existing definitions., Raymond Aron, social thinker of the second half of the 20th century, describes this category in the following manner: „ power is an ability for making, creating or decay. (...).Power on the international stage is the ability of some political unit to force its will on other political units. In short, political power isn't anything absolute, but the relationship between people”<sup>14</sup>. John G. Stoessinger determines power, as the “ability of the state to apply its financial and immaterial resources in a way which will influence keeping other states”<sup>15</sup>. Bertrand Russel establishes that “the power can be defined as achieving the intentional effects. It is, therefore, a quantitative approach: if from two people aspiring to a similar goal, one of them is only achieving this purpose, it means that he has bigger power than the other”<sup>16</sup>. Researchers from the National Defence University, in the published work concerning understanding power and how it is calculated, propose the following definition: “ power is an ability for deliberate action in the international system, with the help possible to obtain funds, whose effect is of the achievement of accepted goals”<sup>17</sup>. From proposed definitions, it is possible to carry out common characteristics of power and especially - the possibility of influence, possession of certain influence, and also managing behaviours of other participants of international relations. The possibility of influence regarding the relationship among centres of powers, namely – countries. Interaction with other participants on the international stage whereas results from possessed material and non-material resources, which, accordingly transformed, characterises the size (effectiveness) of this influence. The susceptibility of the entity on the character of these interactions is equally important.

Hans Joachim Morgenthau aptly pointed out that the concept of power is one of most difficult and most controversial problems of political science<sup>18</sup>. The Rand

<sup>14</sup> *Powernomics, Economics and Strategy After the Cold War*, Econmic Strategy Institute, Washington D.C. 1991, [in:] M. Sulek, *Podstawy potegonomii i potegometrii*, WSEiA, Kielce 2001, p.33

<sup>15</sup> J.G. Stoessinger, *The Might of Nations: World politics in our times*, Random House, New York 1969, p. 27.

<sup>16</sup> B. Russel, *The Forms of Power*, (in:) *Power* (ed.by S. Lukes), New York 1992, p. 19, [in:] M. Sulek, *Podstawy potegonomii...*, op cit., p. 34

<sup>17</sup> Z. Lach, J. Skrzyp, A. Łaszczuk, *Potęga państw współczesnego świata w ujęciu geopolitycznym (II.1.5.1.0)*, Akademia Obrony Narodowej, Warsaw 2011, p. 35.

<sup>18</sup> H.J. Morgenthau, *Politics Among Nations: The Struggle for Power and Peace*, Third Edition (New York: Alfred A. Knopf, 1963), p. 27.



Corporation analysts noticed that “the understanding of the nature and strength of power is the centre of international relations”<sup>19</sup>. Therefore, it is extremely important for both political determiners and military leaders to understand the principles managing international politics in the categories of force and power. International relations, in spite of their changeability and the redefinition of paradigms, peculiarly remain relationships of powers and interests in the field of security. They remain as unceasing competition between states, of which surviving is a purpose, and a resource to this end - a power and force<sup>20</sup>. Boleslaw Balcerowicz stated that to “define (to classify) the state in the international arena it is necessary to take power into account, organic aspiration; and reach of influence (of interest)”<sup>21</sup>. Additionally, the security policy conducted by countries is a result of many factors. The conditioning of the security belongs to those in the international environment, regional characteristics, roles in international relations and strength (power) of states<sup>22</sup>. It is impossible to talk about the diagnosis without including state security in it - or even a qualitative assessment of relationships of strength (power) of states in the analysed security environment. This treatment, all the more intentional it seems, when we make ourselves aware of the material dimension of power, manifesting itself in such areas as the economy, the geographical space, the number and quality of the population, military science and even culture and the politics. Therefore, connections between the power of a state and its security are strongly stressed, while diagnosis of the environment of the security of states calculates the powers of chosen states. The power of states always has a relative value, so must be compared with the power of remaining political individuals. Therefore, as a reflection of the interpenetrating security categories above and of power, they can be described in two ways. The first is the importance of the power of foreign policy, including national security and the design security strategy. The second, in part resulting from the first condition, is analysis of the power of

**19** Rand Corporation, *Measuring National Power*, G.F. Treverton, S.G. Jones, Rand Corporation 2005, [[http://www.rand.org/content/dam/rand/pubs/conf/proceedings/2005/RAND\\_CF215.pdf](http://www.rand.org/content/dam/rand/pubs/conf/proceedings/2005/RAND_CF215.pdf)] (05.04.2016).

**20** H.J. Morgenthau, *Politics Among Nations...*, op. cit., p. 27.

**21** B. Balcerowicz, *Strategia obronna państwa średniej wielkości*, “Zeszyty Naukowe AON”, nr 4 (17), Warsaw 1994, p. 22.

**22** B. Balcerowicz, *Polityka i strategie bezpieczeństwa narodowego. Charakterystyczne podejścia*, [in:] *Współczesny wymiar bezpieczeństwa. Między teorią i praktyką*, J. Pawłowski (ed.), Akademia Obrony Narodowej, Warsaw 2011, p. 22.

states in the balance of power (local, regional, international). Such a diagnosis of the power of the state in the given security environment seems to be crucial for planning security policy, especially long-term. It is correlated with examining the international arrangement of powers, in which changes, that is geopolitical transpositions, aren't taking place day by day<sup>23</sup>. These changes are taking place slowly, new global, regional centres of powers come into existence over time, although history shows periods of precipitating distribution of the power are happening. The knowledge of the size of the power of one's own state and fields of security is useful information in the process of decision making, particularly from a long term perspective. Handling information relating to analyses of the environment of National Security in the categories of the power allows decision-makers to make the right decisions, reducing the risk of uncertainty.

When reviewing the underlying policy objectives of foreign countries, we can notice how strongly the role of power and strength are emphasised. Raymond Aron wrote about the objectives of foreign policy and has split them into two groups: the eternal goals (abstract) and historical (concrete). The first he ranked among the security, power and glory<sup>24</sup>. Abrahamo Fimo Kenneth Organski shared his foreign policy goals as follows: achievement of power, wealth creation, protection and promotion of their own culture, peacekeeping<sup>25</sup>. It is worthwhile referring to Józef Kukułka, who stated that "in every foreign policy, basic objectives embrace: ensuring state security, increasing power and position and international prestige"<sup>26</sup>. This is identified with the belief that power is strongly associated with the functioning of the political individual and creates his security policy. Therefore, an increase in power has most often been identified with an increase in the level of state security. Some researchers went further, such as Hans Joachim Morgenthau who stated, that "international politics - as all politics - is a fight for power. Regardless of the ultimate goals, the direct (immediate) goal is always

23 Transposition geopolitical - changing international balance of power, shifting the center of gravity in a different area or geopolitical change the main direction of expansion of the center of power [in:] L. Sykulski, *Geopolityka. Słownik terminologiczny*, Wydawnictwo Naukowe PWN SA, Warsaw 2009, p. 100.

24 R. Aron, *Polityka między narodami*, p. 82-92.

25 A.F.K. Organski, *World Politics*, New York Knopf 1958, p. 53-63.

26 J. Kukułka, *Międzynarodowe stosunki polityczne*, Państwowe Wydawnictwo Naukowe, Warsaw 1982, p. 43

power”<sup>27</sup>. Hardly any researchers determine power as the ultimate purpose these days, treating this category rather as the centre of the target.

The diagnosis of the security of political units is never complete, if it isn't taking up the subject of analysis of attitudes of force (power), of particularly those potential adversaries concerning the size of power. Therefore, it is necessary to agree with Waldemar Kitlera that “creating analyses concerning the conditioning of national security requires the most significant identifications of its determinants as indicators of strength of couples”<sup>28</sup>. Between the state security and its power to find umbilical ties, Janusz Stefanowicz notes in his works that a sum of factors comprises the size, power and the reach of interests of the state determining its position and international rank. This has a fundamental importance both for the character and the scope of security policy<sup>29</sup>. He adds that “basic parameters of power and dividing states into places and the level of the global network of coordinates - (...) are creating primitive, relatively permanent conditions and are more objective of the national security”<sup>30</sup>.

The assessment of the security of political units remains in the range of political and military interests of decision-makers resulting from the soil with which they are performing in the security system. Such an evaluation should focus on analysis of state security towards remaining states, most often to neighbours. This happens with small and average states. It results from the fact that the horizon of the security of these individuals remains limited on account of the role they are playing in international relations. Large States, regional and world powers' assessment of security is conditional not only from what is happening in the background of immediate foreign countries, but also in regions of the world where they carry out interests (peculiarly, it is taking place in the case of strategic interests). The assessment of the security is always burdened with a certain dose of subjectivity, which - it seems - measures of power can in some way objectivise.

27 H.J. Morgenthau, *Polityka międzynarodowa. Walka o potęgę i pokój*, translated Renata Włoch, Wydawnictwo Difin, Warsaw 2010, p. 47

28 W. Kitler, *Bezpieczeństwo narodowe. Podstawowe kategorie, dylematy pojęciowe i próba systematyzacji*, Towarzystwo Wiedzy Obronnej, , Zeszyt Problematyczny nr 1 (61), Warsaw 2010, p. 110.

29 J. Stefanowicz, *Bezpieczeństwo współczesnych państw*, Instytut Wydawniczy PAX, Warsaw 1994, p. 23.

30 Ibidem, p. 53.

Relating the state security to the environment based on the adopted criteria can allow them to make comparisons, and assess who can pose possible threats. The security environment, and more precisely the power of neighbouring states and other operators, constitutes one of the elements shaping the level of state security. An equally important role is played by relations between states in the context of hostility-friendships which can strengthen or weaken the security level. Above all, however, power lets you assess security. There remains the crucial issue of power and the calculation of the power of other countries. It means that we can talk about the size of power when comparing another power (if a given political individual has such big power compared to another, we can then talk about absolute power)<sup>31</sup>. We can find observations from Robert Gilpin, who states that “if power is the nature of international policy, the nature of power is relative”<sup>32</sup>. Therefore, the power of a player in the international arena is increasing only by reducing the power of other players. Rivalry for power, called geopolitical rivalry, is also a game about the zero sum. The fact that the scope of accessible world power is immutable is acting towards increasing or maintaining one’s own power. Waldemar Kitler brought up the relevant issue of synergy and substitutions occurring between chosen indicators of power<sup>33</sup>. Going further, it is possible to state that “relationships of powers” in every historical age created relations, dependences, and hostility-friendships between individual subjects on the international stage. The layout of forces to a large degree appointed the international order<sup>34</sup>.

Evaluation of relationships of power remains not only a research challenge in the theory of international relations, or geopolitics, but also security science. Amendments to the international balance of power mean a rise in demand is taking place of more and more thorough theoretical copying, as well as expert evaluations which could be of help in decision making. . The modelling and the measurement of the power of states can be a more and more effective response to this need<sup>35</sup>. Therefore, one should agree with the thesis that “the rational

31 M. Sułek, *O potegonomii i potegometrii*. <http://geopolityka.net/o-potegonomii-i-potegometrii/> (05.03.2016 r.).

32 R. Gilpin, *War and Change in World Politics*, Cambridge University Press 1981, p. 14.

33 W. Kitler, *Bezpieczeństwo narodowe. Podstawowe kategorie, dylematy pojęciowe i próba systematyzacji*, Towarzystwo Wiedzy Obronnej, Warsaw 2010, p. 116.

34 B. Balcerowicz, *Pokój i nie-pokój na progu XXI wieku*, Dom Wydawniczy Bellona, Warsaw 2002, p. 120.

35 M. Sułek, *Potęga państw. Modele i zastosowania*, Rambler, Warsaw 2013, p. 79.

forming of security is possible only in a close relationship with the evaluation of its level in the process of design, production, examinations and their uses. The assessment of the security is only available when there are developed methods and criteria of the quantitative evaluation at these individual stages<sup>36</sup>. Analysis of the environment of security in the category of power will never be complete if it does not cover aspects of both the qualitative and quantitative investigated area. With reference to the above, quoting M. Sułek would be necessary to state that “an evaluation is an essential motive for seeking synthetic measures of the power (the diagnosis and the forecast) security of the political unit which will assist decision making. Narrowly, an assessment of security can be based on a comparison and an evaluation of relationships of powers (in categories of power and potential, including potential of battle military forces); and should more widely include the assessment of the policy of both the strategy of potential allies and opponents<sup>37</sup>.”

## Conclusion

The research on the category of power is based mainly on the theory of international relations and geopolitics; however, it remains equally essential for security science. It isn't impossible to talk about the diagnosis or the forecast of the security of a political unit without the calculation of relationships of force, or more widely of relationships of power. Therefore, acquaintance with these issues can be of help in a volume and quality presentation of the power of the state, in the context of the layout of power surrounding it which is contributing to raising the essential level of conducted analyses from the margin of security. Next, it can design long-term strategies, concerning foreign policy and security policy. According to the simple maxim “in order to manage something, it is necessary to measure it<sup>38</sup>”. What's more, both categories are strongly enough connected with each other that due security analysis of the political unit cannot omit

**36** J. Jaźwiński, K. Ważyńska-Fiok, *Bezpieczeństwo systemów*, Wydawnictwo Naukowe PWN, Warsaw 1993.

**37** M. Sułek, *Potęga państw...*, op. cit., p.

**38** Rzeczpospolita, rozmowa z profesorem Robertem S. Kaplanem z Harvard Business School. <http://archiwum.rp.pl/artykul/593613-Zeby-czysms-zarzadzac-trzeba-to-zmierzyc.html> (12.12.2015 r.).

analysis (sizes) of power, peculiarly including comparing it to the most immediate environment, and potential adversaries. It is worth further reflecting over the meaning of the category of power in security science and with possibilities for using the quantification for it in the form of synthetic measures of power for the broader description of the field of the security of states.

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