

# Methodology of complementary research as the basis for integrating science in fulfilling its social mission in the future

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## Abstract

Perhaps the most visible evidence of the crisis of science on a global scale is the COVID-19 pandemic and Russia's aggression against Ukraine, which began on February 24, 2022. The purpose of this scientific essay are the main premises and assumptions for creating the basis for the methodology of complementary research. Perhaps the most convincing rationale for the necessity of taking the trouble to create a such methodology is Kotarbiński's 'Is it not enough to state ...that variety admits conformity, and what is more, it only opens up the possibilities of infinite richness'. The acronym INNOAGON was created by combining the first 4 letters each of the two words that make up the name of the new science 'innovative agonology', which basic and also most general method is the complementary approach. Fulfilling the social mission of science through the applications of INNOAGON's detailed methods and means involves accepting four closely related assumptions.

**Keywords:** COVID-19 • INNOAGON • praxeology • struggle

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**Praxeology (praxiology)**

– science about good work. *A Treatise on Good Work*, a fundamental lecture of praxeology by T. Kotarbiński (the first edition in 1955) has been translated into majority of the so-called congress languages (English, German, Russian) and as well: Czech, Japanese, and Serbo-Croatian.

**Struggle** – as any activity, in which at least two subjects participate (assuming that a team can be a subject) whereas at least one of subjects hinders the other one [1, 13].

**Occam's razor** (also spelled **Ockham's razor** or **Ocham's razor**; Latin: *novacula Occami*) – is the problem-solving principle that recommends searching for explanations constructed with the smallest possible set of elements. It is also known as the **principle of parsimony** or the **law of parsimony** (Latin: *lex parsimoniae*). Attributed to **William of Ockham**, a 14th-century English philosopher and theologian, it is frequently cited as *Entia non sunt multiplicanda praeter necessitatem*, which translates as 'Entities must not be multiplied beyond necessity' [18].

**INTRODUCTION**

Perhaps the most visible evidence of the crisis of science on a global scale is the COVID-19 pandemic and Russia's aggression against Ukraine, which began on February 24, 2022. There is no doubt that the latter phenomenon is controlled by a man known by name. We cannot say that about the first one. However, the clearest evidence of the crisis of science is the fact that the mankind has been unable to prevent both of these multifaceted crises while people who experienced the atrocities of World War II are still alive.

The purpose of this scientific essay are the main, in the author's opinion, premises and assumptions for creating the basis for the methodology of complementary research.

**Methodology of sciences in praxeological terms as a premise of complementary research methodology**

Tadeusz Pszczołowski (1922-1999), a disciple of Tadeusz Kotarbiński (1886-1981), the founder of praxeology (also known as 'the science of good work' or 'the theory of effective action' [1]), perhaps defines methodology most briefly as the science of methods [2, p. 267]. Following Kotarbiński, Pszczołowski, as well as the authors of *Logika i metodologia badań naukowych dla lekarzy (Logic and Methodology of Scientific Research for Doctors)*, Żołnowski and Nowaczyk claim that 'the methodology of sciences is a particular case of general methodology, and therefore praxeology' [3]. Kazimierz Ajdukiewicz (1890-1963), inspired by T. Kotarbiński's works on praxeology, promoted the view that the methodology of sciences is not only a part of logic, but also of praxeology [4]. Unfortunately, praxeology is not a well-known science.

Kotarbiński explains the relationships connecting methodology with logic and praxeology in his first fundamental work *Elementy teorii poznania, logiki formalnej i metodologii nauk (Elements of the Theory of Cognition, Formal Logic and the Methodology of Sciences)* in the second edition, Wrocław 1961 – when two editions of his *Traktat o dobrej robocie (A Treatise on Good Work: 1955, 1958)* were already available. *Treatise* is a complete lecture on praxeology, and the first edition of *Elements* took place in Lviv 1929. In this essay I refer to the third edition of *Elements* from 1986 [5].

As an aside, Wojciech Gasparski (1936-2022) claimed that 'methodology is the science of sciences', and saying 'that methodology is a branch of logic in its broadest sense does not say much, since «logic» may be understood in various ways' [6].

In the appendix 6 of *Elements*, entitled *Treść i zakres pojęcia metodologii (Content and Scope of the Concept of Methodology)* [5]), which is a reprint from the journal *Mysł Filozoficzna (Philosophical Thought)*, 1956 [7], Kotarbiński concludes with a sentence that is perhaps the most convincing rationale for the necessity of taking the trouble to create a 'methodology of complementary research'. Its content in a free translation from Polish: 'Is it not enough to state that *cum duo faciunt idem, non est idem* (when two do the same, they are not the same), and that not only is it not true that where there is difference there is also disagreement, but on the contrary, it is true that variety admits conformity, and what is more, it only opens up the possibilities of infinite richness' [5, p. 411].

**Jigoro Kano and his complementary science of judo a missing distinction among the precursors of praxeology**

This issue, an important premise for further reasoning, has a special sentimental significance for me. When, in 1988-1990, I was a research intern at the Department of Praxeology and Scientology of the Institute of Philosophy and Sociology of the Polish Academy of Sciences in Warsaw under the guidance of another student of Tadeusz Kotarbiński, Prof. Jarosław Rudniański, I did not understand at the time the reason why my research supervisor arranged a discussion of judo at almost every meeting. It was a time when Russian troops were still stationed in Poland, and the fall of the Berlin Wall in 1989 (the symbol of the Iron Curtain) was the beginning of the end of the division of the world into a free West and an East enslaved by the Communists.

Praxeology is a theoretical science, and since I first read *A Treatise on Good Work* (third edition, 1965) as a 16-year-old high school student, I have been exploring this science systematically, precisely as a general methodology. For five years before that, I had been learning ju-jitsu from books – such were the realities of access to knowledge behind the Iron Curtain [8]. Subsequent judo practice at a university club under the guidance

of a professional coach, then judo coaching specialization while studying physical education, and finally coaching practice culminating in multiple Polish military academy championships, was mainly sports training, but inspired by a desire to explore the philosophy of judo. It was not until the end of the 20th century that I came upon originally a lecture *The Contribution of Jiudo to Education* given by Jigoro Kano at the University of Southern California on the occasion of the 10<sup>th</sup> Olympiad, Los Angeles 1932 [9].

Tadeusz Kotarbiński and his disciples also did not have access, either to this publication or other writings of Jigoro Kano, in fact a complementary applied science called 'judo'. Complementary first and foremost in the sense that the proposed practice of formal exercises (kata) and free combat (randori) is complementary to and an area for empirical verification of the most general of the principles of efficient action, whatever it may be – 'maximum efficient use of energy (*seriyoku-zenyo*).

Kano, like Kotarbiński, understood that it was not only a matter of efficiency of action, of achieving the goals undertaken, but also that the action should serve the general public. He therefore formulated a second principle and called it: 'mutual prosperity for self and others' (*jita-kyoei*). These ethical principles were formally announced when he was sixty-three years old, forty years after founding the *Kōdōkan* (in 1882 named friendly for the man educational system through the fight judo *Kōdōkan*, and also the name of the judo education institute – the center of world judo – based in Tokyo, which is still in operation today [10]).

Kotarbiński, first in the first chapter of the *Treatise*, entitled *Zadania prakseologii* (*Tasks of Praxeology*), and then in the first appendix *Prakseologia zasady sprawnego działania* (*Praxeology of Principles of Efficient Action*), makes a number of recommendations, and in the appendix he bases them on a set of specific examples, but does not, by Kano's example, formulate any one universal one. However, driven by similar motives as Jigoro Kano, he concludes this appendix with a paragraph referring to *seriyoku-zenyo* and *jita-kyoei* (although he did not know of these fundamental principles of judo). Not the first evidence that people (not necessarily scholars), come to identical discoveries (solutions to the same problems), if they even have neither direct nor indirect contact with each other.

In it he writes thus: 'I have in mind the slogan of «good work». It encompasses an appeal not only to efficiency, but also to decent, socially valuable motives; not only accuracy and economy are demanded, but also conscientiousness, such as a reliable attitude to obligations, And these are already non-praxeological concepts, concepts from the field of ethics and moral and civic education' [1].

In this scholarly essay I only pose the issue: judo – a complementary applied science from the turn of the XX century, reduced to a sport and humiliated in neo gladiatorial cages. It is not only about editorial limitations, but primarily about the social importance of the phenomenon in close relationship with all dimensions of health and survival ability from micro to macro scales.

This synthetic outline of the problem is probably enough to understand the reason why the publications of Tadeusz Kotarbiński and his students lack Jigoro Kano among the precursors of praxeology. Namely, not because Kano did not use the term 'praxeology' like the: Alfred Espinas (1890), A. Bogdanov – pseudonym of A.A. Malinovsky (1922), Eugeniusz Ślucki (1926) [1]. The barrier was the lack of communication (historically explained) between both brilliant scientists.

Jigoro Kano was a real praxeologist (but he used different terminology) who combined theory and practice into one coherent (significantly complementary) system with cognitive-behavioral qualities, based on efficiency and ethical criteria (Figure 1).

### **INNAGON – an acronym for the science of strengthening all dimensions of health and survivability**

The acronym INNOAGON was created by combining the first 4 letters each of the two words that make up the name of the new science 'innovative agonology', which basic and also most general method is the complementary approach [11].

Innovative agonology is an applied science dedicated to promotion, prevention and therapy related to all dimensions of health and regarding the optimization of activities that increase the ability to survive from micro to macro scales [12, p. 274]. The second part of the name, 'agonology', is synonymous with the general theory of struggle, which Tadeusz Kotarbiński created and published a year

## Jigoro Kano and his complementary science of judo a missing distinction among the precursors of praxeology

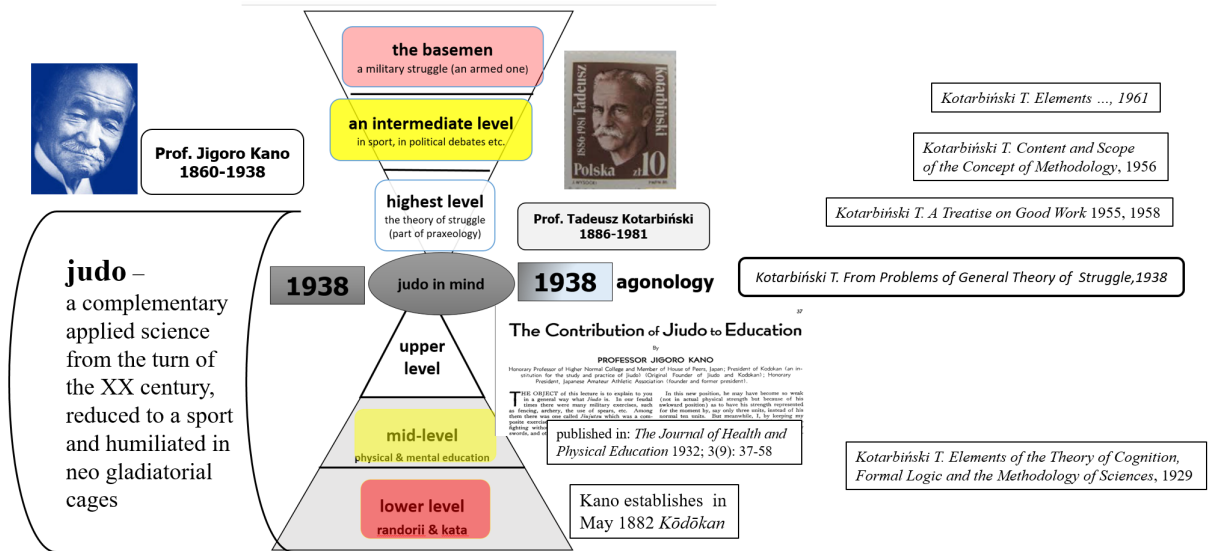


Figure 1. A model for visualizing the main 'intellectual and motor premises', successfully creating a complementary research methodology.

before the outbreak of World War II 1938 [13]. Diagnostics, on the other hand, is a common phenomenon combining promotion, prevention and therapy and any survival component, which in certain circumstances also becomes an indispensable element in the total promotion, prevention and therapy of an individual (micro-scale or only seemingly micro-scale).

The most vivid example related to the history that is happening before our eyes, that the weakest links of health care and survival capabilities from micro to macro scales are not only diagnostics, but also prevention, leads to the person of the main perpetrator of the aggression against Ukraine on 24.02.2022. Moreover, it is at the same time a methodological example of the validity of the distinction between the 'seemingly micro scale', after all, the dictator's decisions, in this case, translate into global survival effects, but also public health effects with a reach at least on the higher medium scale (concerning a group of countries, a coalition of countries or even a continent). At the same time, this example illustrates how difficult it is to fulfill the social mission of science so that science (abstracting from the motives and actions of individual scientists) does not become a party to current politics and so that its status of freedom and independence is not threatened.

Let the scale of difficulty of this necessary scientific challenge be exemplified by the fact that the one who ordered the aggression against Ukraine is personally identified, but it is impossible to conduct research on his personality and health in laboratory conditions in a complementary way and publish the results of such research. However, it is possible to make hypotheses based on his decisions and actions (behaviours) observable, but still in limited circumstances. Thus, we know for sure that he broke the principles of his doctoral oath, that although he received the honorary degree of 8th dan in judo, he is an important global promoter of bloody fights of modern gladiators (a practice camouflaged under the name of 'martial arts' by adding the word 'mixed').

### Main relations linking INNOAGON with methodology of complementary research

Fulfilling the social mission of science through the applications of INNOAGON's detailed methods and means involves accepting four closely related **assumptions**. Research assumptions, as I understand them, 'are both theorems that, given the provided presumptions we consider to be true, and revealed circumstances that, given the purpose of the research, we consider to be relevant' [14, p. 48].

**Firstly**, the acceptance of the hypothesis on the supreme value criteria of the global civilization by each of the responsible entities, whose actions have consequences on the entire scale, i.e. from micro to macro. The main hypothesis is: *survival of humans and nature in a non-degenerate form and responsibility for coming generations* [15].

**Second**, the language of methodology of complementary research (which is equally applicable to INNOAGON) should be very precise. The object of innovative agonology research is the phenomenon of struggle in a broad sense, dedicated precisely (to put it somewhat more figuratively) to the defence of development and survival of humans and nature in a non-degenerate form against destructive factors. Moreover, the range of application of INNOAGON products is possible in a great many, even distant, scientific disciplines and implementation into areas of practice (medicine, education, defence, etc.). Precisely because of such broadly understood application possibilities, precise language is one of the basic conditions for successfully practicing the just emerging complementary research methodology [16, 17]. Language must be precise and concise (reduced to essential words) also due to the increasing importance of artificial intelligence in science and many other social activities.

**Third**, prudent application of Ockham's razor. As an illustrative example of the justification that this assumption is as important as the others, let us draw the attention of researchers exploring any phenomena that fulfill the hypothesis on the supreme value criteria of the global civilization to a strictly methodological issue – secondary analysis of variance. This issue opens up the

heuristic possibility of searching for a solution to the problem either through repeated analyses of already collected empirical data, or during repeated experiments that take into account reaching the factors that originally filled those unexplained parts of the variance.

**Fourth**, the use of mixed assessments ('efficiency-ethical') is a *sine qua non* for fulfilling the social mission of science, not least to increase the number of subjects accepting the hypothesis on the supreme value criteria of the global civilization. This assumption is not revelatory. It refers directly to Jigoro Kano's linking of the principles of *seiyoku-zenyo* and *jita-kyoei*. and Tadeusz Kotarbiński's slogan of "good work" with ethical criteria. In the second case, that of praxeology, mixed assessments based on "efficiency-ethical" criteria are called 'courage' (English), 'vaillance' (French), 'Tüchtigkeit' (German), 'chrabrost' (Russian).

## CONCLUSIONS

In a sense, a methodological guide in the difficult mission of creating a universal methodology of complementary research can be innovative agonology, a new applied science whose main research and teaching method is the complementary approach. The actual world premiere of INNOAGON took place at the 36<sup>th</sup> session of AHFE International 2023 July 22 in San Francisco, USA and was entitled: *Huma Factors from Innovative Agonology Perspective*. INNOAGON's expanding pool of experts aims to host the 1<sup>st</sup> International Conference on Innovative Agonology the Science of Enhancing Health and Survival as part of the 15<sup>th</sup> edition of AHFE 2024.

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