

Agon – a term connecting the theory of struggle with belles-lettres. A perspective of inter-disciplinary research

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Abstract

The aim of this paper is main relations to connect the theory of struggle with belles-lettres. Tadeusz Kotarbiński in 1938 began the general theory of struggle (agonology) from the perspective of praxiology. In the second half of the 20th century Polish scientists developed as follows: theory of destructing (cybernetic theory of struggle), theory of non-armed struggle, theory of defensive struggle, theory of combat sports, which is narrowed as far as to a micro-scale – struggles of one against another as it is in combat sports, or an individual against a small group (as at non-sport confrontations). The theory of struggle has been widely applied in developing the theory of sport.

In this paper the analysis of struggle (arm wrestling) of heroes of a leading Ernest Hemingway's short story we have based on agonology. This result shows in a certain sense a new methodological value of agonology in inter-disciplinary research of various type struggles, which had been described in belles-lettres. This is a valuable perspective, especially in cognitive and didactic sense.

Key words: agonology • arm wrestling • theory of destruction • theory of non-armed struggle • theory of defensive struggle • theory of combat sports • courage (bravery)

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BACKGROUND

In Ancient Greece the term *agōn* meant “a reunion, stadium, sport competitions” (also a rivalry in drama and music). Derivate of this term: *agōnistikós* – “apt to fight, quarrelsome”; *agōnia* – “a struggle for victory in competitions, strain, fear”. With the language of Ancient Greece etymology of the word **agony** in contemporary comprehension – “a struggle with death, decline, dying” [1] is connected. Tadeusz Kotarbiński named though a general (praxiological) theory of struggle as **agonology** (from Greek *αγών* – strife) [2]. In the language of praxiology “agonology” (*French* agonistique, agonologie; *German* Agonistik, Agonologie) is a general knowledge about struggle; theory of struggle connected with recurrently

other disciplines, e. g. aesthetics, psychology, sociology [3, p. 12]. Theory of struggle is – in other words – theory of negative co-operation, for Kotarbiński calls “a struggle” in exchange “a negative co-operation” [2].

Jarosław Rudniański listed that such words as “a struggle” or “to fight” in a Polish dictionary of synonyms which has been published more than half a century ago are from the point of view of frequency on the second place after the word “colourful”. Notwithstanding, as synonymic words as “colourful” are listed all colours as well as theirs shades [4]. Would the reprinted dictionary in 2011 place a noun “struggle” and a verb “to fight” on the leading positions?

This is a rhetoric question. A purpose of this paper is not at least the statistics of synonymic words but the main relation to connect the theory of struggle with belles-lettres. In emphasizing these relations we do notice both benefits which are purely scientific (the cognitive ones) and applications on edge of: science – didactics – education – arts (especially film art, genre of fantasy and comic) – sport – personal and collective security – health prevention – policy – law – marketing – media, etc.

ESSENTIAL PREREQUISITES

Jarosław Rudniański noticed fittingly that a man uses the most often the words "a struggle", "to fight" and synonymic terms when "(...) a given action is distinguishable by a high level of difficulty and psychic suspense" [4, p. 16]. Formulating this statement more than 20 years ago he at the same time asks a question that in farther development of science these actions will be separated into a specific group, perhaps.

For several years the television has separated a special "Extreme Sports" channel, though there are no grounds to state that the persons who comment extremely difficult actions (of a high level of risk) not only in the framework of a widely comprehended sport use a language deserving a scientific or popular scientific character that will be able to clarify and create educational values of, above all, a certain category of sport combats. At the contrary, at the so-called peak watching hours a main group of presented extreme actions there are various modifications of boxing and contemporary gladiator combats (K-1, M-1 Challenge, MMA formulas, etc., to which organizers strive to adscript valour of sport). So, here dominates a language of emotions that elevates the aggression to a category of desired actions [5].

As a global society, being initiated by electronic media were are incommensurably higher than citizens of the Roman Empire (who has been fascinated by gladiators' games) in an illusory trap of satisfying the lowest instincts by an opportunity of recurrent watch of destructive fights and other extreme constraint in course of the day. This genre of fascination instead of generating *catharsis* is an effective way of learning the aggression and provoking own aggressiveness. A procedure of cancelling gladiators' games, which began in AD 326 by a special edict by Constantine the Great was lasting more than 350 years – as long as until AD 681 [6]. Any time eviction of prevalence and extreme aggression from electronic media is rather impossible. A systemic education of the global society with consumptive inclination towards violence is therefore a fact.

The biggest number of evidence of long-age human fascination of a struggle (including extremely negative reasons)

and also admiration for heroic deeds (when you should be adamant and indomitable when defending own life, community, liberty, law-abidingness, etc.) deliver the Saint Books (especially *The Old Testament* and *Bhagawad Gita*), historiography, philosophy (e.g. the first manual of praxiological character as it is Sun Zi's *The Art of War*, which was written in the Ancient China or strategies included in *The Prince* by Machiavelli, a Renaissance thinker from Italy), and belles-lettres. The most important eposes of various nations, from the Old Babylonian about Gilgamesh to the last in Europe which is Mickiewicz's *Pan Tadeusz*, is not-exploited source of myths for imagination and mass culture. The most colourful and emotional descriptions of a struggle gives the literary language of belles-lettres. The most precise reflections and analyses supply philosophical texts. Independently from the language but, at the instance of the authors of the Saint Books, historians, philosophers, writers, and poets, a reliable knowledge on phenomenon of human struggle with other human as well as a human against other forces (nature, disease, etc.) throughout centuries has been accumulated.

As struggles among the people and a necessity of forcing difficult situations are an immanent feature of human deeds, so that is natural that these phenomena are subjects of research by different scientific disciplines. A scarcely numerous than scientific disciplines is a representation of particular educational programmes that are a ground to prepare competent specialists of concrete "combat occupations": soldiers, policemen, rescuers of various special lines, lawyers, managers, sport teachers, and sportsmen who are to compete on the highest level with the other ones, etc. Although, **the theory of struggle** – the most useful tool in the field of scientific research on a phenomenon of negative co-operation but also serviceable in education orientated on struggle problems – is as long as of several tens of years. That is not much as the struggle is so important for a man and dating back the birth of modern sciences falls onto 16th century of our era [7].

THE GENERAL THEORY OF STRUGGLE

General theory of struggle in the 20th century began a many-time chess world champion Emanuel Lasker [8,9]. He called it *machology* (from Greek *mache* – struggle, *logia* – science). The critics of machology reproach Lasker a knotty and strange terminology [10]. What is the most important, according to Pszczołowski [10], Lasker repeatedly proclaims evident truths basing on, above all, chess playing observations. Although he asserts that all rules of struggle are taken under consideration and those which are not described can be led from them.

Tadeusz Kotarbiński in 1938 gave the commencement of general theory of struggle from a praxiological

perspective. On order of the Polish Army Headquarters edited a brochure *From Problems of General Theory of Struggle* which was published by the Psychological Section of the Military Knowledge Association. He comes back to this set of problems after twenty years [11] and later [12]. Earlier, in 1955, appears the first edition of *A Treatise on Good Work*, a fundamental lecture of praxiology by T. Kotarbiński, in which he affiliates to the theory of negative co-operation but a separate chapter he devotes to a struggle technique only¹. We send the reader to the seventh edition [2] that is a renewal of the sixth edition, still when Kotarbiński was alive and with his word “From the Author”. The set of problems on the theory of struggle is undertaken by Kotarbiński also in the later published works in the domain of praxiology [13]. As an individual case of the theory of struggle he analyses eristic – ability (art) of leading a dispute [14].

At essentials of Kotarbiński’s interests in a struggle was consciousness that a man develops the biggest amount of energy and smartness when he or she finds in constrained situations. Just in course of a struggle an adversary does all his efforts to obstruct an action of the other side. In numerous kinds of struggles there are plenty of such situations. Kotarbiński in the widest comprehension defines “a struggle” as any activity that is at least a two-subject one (premising that a team can be a subject) where at least one of subjects hinders the other [2 p. 221].

As the most curious case of a struggle however he shows a situation when both subjects not only tend objectively to the discordant aims but also are conscious of that and count in building their plans of action activities of the opposite side, too. These kind struggles take place in sport, in political and lawyers’ debates, business competition, partly in education, etc. These struggles qualify to “an intermediate level” of stage of generalization. It places a military struggle (an armed one) on “the ground floor” (parterre), notwithstanding on the “highest level” a general theory of the deed (praxiology) which includes the theory of struggle [11, see also 4].

MAIN PROBLEMS OF GENERAL THEORY OF STRUGGLE

Tadeusz Kotarbiński having renewed after 30 years the set of problems referring to the theory of struggle [13] – we do abstract from the work published in 1957 [11] – emphasizes two quests. Firstly, that from the beginning of the work by Emanuel Lasker [8] from the early 20th century, in principle there did not appeared any publications concerning problems of the theory of struggle. The work by Arnold Rappaport in 1960 [15] that

was devoted first of all to games as such they are. The second one is that he does not undertake to put over a general theory of the struggle but only formulates these problems. He was conscious that this theory is being born soon. As he has it, the detailed problems of general theory of struggle involve individual researchers and demand a suitable formulating and ordering. He had not foreseen but that not many researchers would develop it. There from we can state righteously that a general theory of struggle is still in the stage of constructing and an opened question is simultaneously formulating the most crucial quests of a general theory of struggle, likewise the theory itself, that is system of answering them – what Kotarbiński clearly articulates [13].

As an introductory point of reasoning Kotarbiński accepts struggles of an absolute fight, it means impulsive fights of animals, strives “for knives”, and “for deaths and lives” among deadly enemies, absolute wars, etc. Contending forth he recommends putting afar from such narrowing of a fight to get the concept more generally. He slightly modifies, indeed, the earlier defined concept of “a struggle” (see above [2, p. 221]), though the sense remains the same: “(...) a juncture of actions of various persons or teams when purposes of the acting are discordant and ones try to hinder the others in their pursuits” [13, p. 127].

Effectiveness of actions by struggle’s participants – what seems logical – is a central problem of theory of struggle and a special subject of interest – ways of making the struggle improved. A concept of victory is then an essential of further reasoning. Kotarbiński underlines explicitly that comprehending a victory as destroying the enemy, or as breakthrough the enemy’s will does not fit to the general theory of struggle. He sees but the usefulness of a statement that this and only this won who achieved the struggle’s aim. In a sense of a general theory of struggle he elucidates: “The triumph is in this comprehension when the result of our endeavours is the beginning of independence of a struggle’s aim from further actions of an adversary part” [13, p. 128]. The contradiction of a victory is a defeat: “(...) a given fighting part is concerned to be discomfiture – means the same as: it has lost a capacity of action according to own intention onto the struggle’s result protecting such a capacity of action at a contradictory part, using other words: from its future actions stopped depending further realization of the struggle’s aims when it depends on the future actions of an adversary” [13, p. 129].

From the definition of concepts as “victory” and “discomfiture” results that in fighting for a given aim there

¹ Next to data of 1978 [3] *A Treatise on Good Work* (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.

cannot be either a victory both sides or a both sides discomfiture. A possibility of lack of victory is not excluded however and, at the same time, a lack a discomfiture both sides. The author of the theory of struggle concludes that two variants of such equality of positions is taking shape. The first is that both sides loose ability of further interaction onto a result of strives at a certain moment before the struggle's end. The second is that both parties protect such an opportunity all the time losing it as late as from the struggle's end on. An example of the first situation is a chess play when only king or king with bishop is being left and the second situation is common in sport. A so-called drawn (lack of result) the regulations of many combat sports and games take into account.

An essential action of realization a struggle's aim is an attack. It results straightforward from a wide definition of struggle that was formulated by Kotarbiński, which puts the stress onto a possible relation linking parts of the struggle. We pay attention onto a subtle difference of a statement "a relation linking parts of the struggle" but not "a relation linking fighting parts". Kotarbiński in the widest comprehension of "a struggle" (see above [2, p. 221]) appoints onto a two-subject action at least. Authorized is then a statement that a subject may achieve the consciousness that it is a subject of someone's attack as late as at the moment when he or she will have been attacked. "May", because there is no way to exclude the situation, which aim is annihilation of an adversary and attack will be inasmuch slow and distributed in time that concluding about a consciousness is authorized. Equally well may be the attack vehement and successful that such a concluding is just dubious. An analysis of numerous "relations linking fighting parts" is but well-grounded, e.g. during a different type analyses of sport fights. Each time the subject commences a play when he or she executes the so-called service, e.g. in volleyball and racket sports. In other sports types (combat sports, games) having begun a struggle about the moment of attack decides a fighting subject. Similarly, it does about a counter-attack, it is a defence.

In the widest comprehension "(...) that, and only that, attacks who undertakes actions for a events' changes' course directed to own struggle's aims that had existed, that defends himself or herself who counter-acts the attack" [13, p. 130]. An existed before course of events may have various prerequisites. Not solely in sport the matter is to maintain a definite state of matter with no changes. Paradoxically, losing a match in sport, e.g. 1:2, may suffice to win on a given stage of eliminations, providing that a match before the part finished with a result for example 2:0.

Kotarbiński pays attention onto a seeming paradoxically of a statement: "(...) that any defence is a certain

form of attack and only the reciprocal is not a truth not any attack is a defence" [13, p. 130]. In his works he gives evidence of his righteousness. As the defender faces an alien's attack, so he or she counter-acts changes, to that the enemy is tending. As follows in defending he or she attacks (in an accepted sense of attack), even if he or she protects himself or herself, lays barriers, etc. As an example of an attack having no features of defence he gives a robber's assault aiming to seize alien's property [13].

For praxiological analyses, detaining, among others, combat sports and non-sport confrontations, the precise definition of ways of defence is suitable. Kotarbiński lists just a counter-attack as a basic way. A shield is defined as building a blockage in the way of attack of an enemy; a retreat – as a way of avoiding an enemy's offensive by leaving the area of fight (the area of fight is understood as a set of coincidences in that the fight rolls: a place, time, surrounding, a kind of an arm, etc.). Living an area is generating that a defender is not in this situation any more. An escape, in the most general sense, is a following retreat against an enemy attack (e.g. to quit a place and this pattern is close of combat sports and non-sport confrontation, but an escape is also an absence at a court affair, not taking part in a dispute in a certain subject etc.). Such general sense of a retreat suggests to name it "an evade of a fight", but such generally understood escape – rather a following retreat from a fight. That is advised to talk about a retreat and an escape in cases of leaving a place only [2, pp. 239–240]. Such events are not separated in boxing and other combat sports when an accessible or the only way of fighting is inflicting a competitor the blows. A consequence of avoiding a fight waged e.g. in judo or in wrestling are subsequent penalties till a competitor's disqualification.

Encounter (conflict, dash) is a destructive fight in the stage of each other's hit of two fighting parties, nevertheless destroying an escaping foe is no encounter [3, p. 231]. In a wide meaning an encounter is a simultaneous mutual knock – both sides attack, or one party attacks and the other counter-attacks. Such situations are typical for males of some animals' species for primacy in a herd. By an encounter begin contemporary sumo fights. An encounter is frequent on fencing fights, boxing, and other combat sports which are in knocking a competitor.

Before formulating advice and warnings to be needed to lead an effective fight Kotarbiński defines two concepts that are laded from the general theory efficient activity – "a positive position" and "a negative position". "An acting subject places itself in a positive position towards an action's aim if it does not need to strain in

realization of this aim (...) in a negative position (...) in it must strain in achieving it because an automatic course of events without its interference is tending to a discordant to intended state of matter" [13, p. 131]. Kotarbiński clearly stresses that it happens rarely to anyone to be in a positive position. In general we find ourselves in a negative position towards an intention (aim). Moreover, in many types of fights on one hand a negative position (similarly to a positive one) is able to be graduated and on the other there is alternation of a positive and negative position. A good example are some kinds sport fights. Losing one set in volleyball, tennis, etc. does not make afar the aim yet so far as losing two sets. The another situation (having a higher intensiveness of a negative position) does not yet judge beforehand that the victory is impossible. Alteration of a positive and negative position is a property of majority of sports (combat sports, games, shooting, bowing, track and field, gymnastics), perhaps.

On this quest's margin – considering the fact of this work's publication in *Archives of Budo* we do emphasize that a word "position" in scientific works that concerns especially combat sports should be used very precisely. Authors recurrently use a word "position" with a word "posture" interchangeably which refers to a body, not then a relation to link an acting subject with an action's aim (a fight).

In general the problems of the theory of struggle outlined above belong to essential ones. This set is at the same time an elementary set of necessary concepts to practice this theory. A score of the theory of struggle are though rules of leading any struggles. When Jarosław Rudniański develops this theory he points out that Tadeusz Kotarbiński calls these rules also as rules of an effective struggle or directives, or else stratagems [4, p. 23]. He postulates to name them methods and puts stress on various stage of their generalization. Besides justifying this postulate Rudniański notices that Kotarbiński uses interchangeably words "rule", "directive", "stratagem", "trick", "principle", "postulate", "method" at talking about technique of battle. Mentioning to *A treatise on good work* he gives a pattern that Kotarbiński on the same page once says about "a directive of cunctation", below about a stratagem of cunctation", though farther about "a method of cunctation". Every time he uses these expressions as equivalent [4, p. 23].

Rudniański caring about a terminology of struggle's theory to express exactly its content with an exceptional accuracy uses the above listed words. When he formulates the most general **directive** of efficient leading of any struggles he formulates a following **rule**: "fighting act so to achieve at a possibly shortest time and at the

least own costs your direct main aim at given circumstances" [4, p. 24].

In further reasoning he explains that activities which are called a struggle and in which the most specific feature is counting with counter-action of an adversary, they are included in a very wide class of actions. This class of actions he characterizes as "(...) counting itself all the time of action's duration with a strong and various resistance of a subject that is placed in a constant movement that is independent or material, or even surrounding, or both in common" [4 p. 24]. There from there are justified common expressions as "struggle with fire", "fight against tuberculosis", "struggle against storm", etc. Rudniański appoints forming mutations by bacteria or viruses to adjust to vaccinations and antibiotics as extreme cases of counter-action. That namely the living organisms do not have human consciousness has no crucial meaning for the way of action by these which fight back them. For such a class of actions Rudniański formulates a **rule** – as he has it – with the highest grade of generality: "(...) at an action in which a material or surrounding all the action's time is in independent motion from an acting one, creating simultaneously strong and various resistance; act this way to be able at any moment possibly change both a plan of action and its manner" [4, p. 25]. Thus, though Rudniański describing these quests on four pages of a subchapter entitled "A General Rule of a Struggle. An Outline of a Set of Problems" [4, pp. 23–26] does not tell straight forwards nothing but this rule is a **general rule of a struggle**, there cannot be any doubt that it is so. Besides, the author in a subsequent sentence clears that all other rules referring to these actions (in a scope of which a struggle has been included) will have a lower level of generality.

Jarosław Rudniański caring about a terminological order of the struggle's theory defines accurately a concept of substance in a non-armed struggle (that is on "an immediate floor") and in an armed struggle ("on a ground floor): "(...) in a prevailing majority of cases (e.g. excepting boxing or wrestling, partly also teaching and upbringing) in a non-armed struggle a main substance of an acting is not its adversary or not only its adversary (...). Although, in an armed struggle a main substance of an acting is its adversary as well as tools, which are used by an adversary" [4, pp. 16–17].

A subsequent **rule** of struggle formulated by Kotarbiński we qualify to a lower level of generality so far because it refers exclusively to thinking creatures: "Everyone, if he or she fights rationally, wants to be placed in a positive position towards the struggle's aim and is kin on it, if forces allow, to make an adversary be found in the most negative position" [13 p. 142]. There is no meaning,

Outlay (input) – needed or factually used resources (cost of actions) to achieve a given aim [3, p. 127].

by the way, is there an only substance in struggle an adversary himself or herself and his/her tools of struggle. Commencing from this level of generality – that is a **rule** which is adequate to struggles amongst thinking creatures – we will appoint these **methods** of struggle to be effectively used above all by an intelligent subject. *The method of accomplished facts* is the most effective when a party has on its disposal a freedom using own forces and will be found in a positive position to precede an adversary. A good example is a struggle for area. That is so in a primordial stage of this struggle – who will take a suitable place or places would not have to attack. Maintenance of an area desires repeatedly subsequent efforts and outlay so far – fortifications, installations, apparatuses, energy, tools, etc. Accumulation of suitable measures of counter-action before may suffice to base on effective defence on the *method of threat (potentialization)*. An threat is in “(...) making an adversary comprehending that if he or she behaves as we want, will face an effective action from us, opponent to his or her aim” [13, p. 133]. Kotarbiński distinguishes an appropriate threat and a pretended one, so called “bluff”. The first appears when an endangering part considers that is substantially prepared to an effective attack in case of objection. The other is when an endangering part only threatens an adversary without consciousness of such a readiness [13 p. 133].

Kotarbiński defining these methods (in his language: recommendations and cautions) accents that the theory of struggle develops a separate chapter about a **technique of possibility of acting**. One of main assumptions of this technique says that realizing a possibility of a given activity it is being liquidated at the same time. *Economizing of activity* is an essential postulate here. The matter is therefore in restraining oneself from realizing of possessed capacities, just for that reason to maintain these capacities as long as possible. A following postulate that concerns to the technique of possibility of acting pays accents on a *decisive moment*. Having possibility of acting is always connected with some circumstances. Since the circumstances change, so usually follows a moment, after which one loses a possibility of acting. Both postulates are of meaning in any struggle led by thinking creatures this way to replace on one hand an attack by **threat**, on the other – not to postpone this endangerment and/or other indispensable activities beyond a **decisive moment**.

In a certain sense the most important postulate referring to wage effective struggles announces to *on having in disposal the majority of forces at a decisive place and time*. Kotarbiński sees in this postulate a rule of winning even in individual cases, when one wins managing smaller forces in general than these ones belonging to an adversary

[13, p. 135]. This statement is but a clear simplification and may be exemplified – seemingly with accurate aim – even if a win in sumo or in judo (in an open category) by lighter competitors even of some tens of kilograms then their competitors and who objectively are behind them with their muscular force. Rudniański explicates that we can say with sense only about efficiency of struggle against a stronger adversary but we will not able say with sense about gaining superiority over him or her, or a triumph and he turns back to a Henry Stonert’s statement that a stronger adversary must win *ex definitione* [4, pp. 141–142]. In a very wide comprehension especially to a bystander it is recurrently a difficult question to define a factor or factors that decided about a triumph, or pointing potential factors (capacities, features, skills, etc.) that are able to decide about win over an adversary who was inter-subjectively acknowledged as a stronger part. In an example hereinabove, a system of factors that refers to body’s mass and a muscular force of sumo and judo competitors was not deciding about their factual force in a wide comprehension. These indicators have occurred seemingly accurate. Nevertheless, about a force of winners certified probably a capacity (ability) of using the muscular force of their adversaries that had been used in a struggle recklessly. In judo this probable state of matters explains a rule “yield to win” (when a competitor pushes then pull, when pulls – push). Let us add clearly: when forces of fighting subjects are getting equilibrated then there is no settlement. A compromise is possible (the theory of compromise was developed by Jarosław Rudniański [4]. An alternative then, a struggle’s continuation what in extreme situations may lead to a mutual destruction or self-destruction (e.g. considering a macro scale: it suffices that one of superpowers explodes own nuclear weapons’ arsenals).

When we will have taken into account a logical argumentation of Rudniański a sensible seems a following rule then: if resources you have to manage with put back towards the resources of an adversary then you can aggrandize probability of getting preponderance, and even a win if you accept this method of these methods of struggle effectively, the methods which are adequate for given circumstances. We do formulate the methods next to Kotarbiński so far [2,11,13] and Pszczołowski [10] as well as majority of examples.

The method of enhancing a forces’ ratio for own benefit

A good example is using muscular force of an adversary in above analysed sumo and judo fights. This method is applied by counsel of the defence, who applies for benefits of his or her client the facts mentioned by witnesses of evidence for the prosecution. In armed struggles using

a part of apparatuses of an adversary in a role of own apparatuses is an example of routing the adversary with his or her own weapon. Alas, tragic events of Sept. 11, 2001 onto the WTC are a grievous and extreme example and application of this method by terrorists. An extreme one therefore that assignment of passengers' plights has not much in common with a weapon in a strict meaning.

The method of carefulness about freedom of own motions and cramping of adversary's motions' freedom

Many examples of effectiveness of this method deliver chess plays, e.g. pushing back a set of adversary's figures onto a smaller part of a chessboard, guarantees a bigger freedom of own figures on a bigger part of a chessboard. A boxer in a ring who pushes forth an adversary into a corner (forming before a certain accomplished fact), cramps freedom of his or her motions and ascertains a bigger freedom of activity for him or her, while attacking intensively.

The method of concentration of own forces

A matter of this method is illustrated by a rule that concentration of fighting subject's forces (a unit or a team) intensifies if its internal organization intensifies itself. In sport this rule has reference both to many-stage preparation (training) before the most important competitions (including control ones) and preparation to a struggle due to as well as in its course. Trainers should strive for such a concentration of competitors and teams (many of them do that in general) during breaks of matches or between in so-called rounds. Just the clearest example of a master application of this method is an analysed in praxiological literature (specially by Rudniański [4]) not only a struggle itself of an Old Testament David versus Goliath but preparation to it. Inasmuch teaching is a description of such preparation in *Bhagawad Gita* which is executed by Krishna before a battle (in a charioteer's disguise) versus Arjuna full of internal dilemmas.

The method of dividing adversary's forces

A contradiction of a method of own forces' concentration is a method of dividing adversary's forces. In a certain sense as a pattern example of application of this method the praxiologists [10,11] mention a struggle of three Curatius's Brothers versus three Horatius's Brothers (the first represented Albanian army the others, the Romans) described by a Roman historian Titus Livius (57–17 BC). After the first encounter on a battlefield the wounded Curatius's and only one Roman, but with no wound, were left. He could not cope all adversaries in common. Towards each of them separately his

chances were on his part. He started escaping to fight versus each of them separately. He knew that in such intervals they would chase him as they as they afforded to seeing their forces and a degree of wounding – it happened so. He gradually was defeating enemies and every success gave him more zeal. When he faced the last struggle his adversary was weakened by a wound, exhausted by a chase, and depressed by his brothers' deaths. This duel was the easiest task for a Roman.

The method of temporization

A cunctator is the one who postpones. A method of temporization in a certain sense is a special case of using a method of intensification the forces' ratio on own benefit (a choice of a correspondent place and time). It is left anyway in a certain antagonism towards a method of forming accomplished facts (this quest is elucidated by Kotarbiński [2, p. 235]). As an example of art of temporization in the praxiological literature [10] the achievements of Fabius Maximus who during the Second Punic War (218–201 BC) with meagre forces was attacking a huge Hannibal's army. A cunctator one the praxiologists name a military decision issued in 1738 in France that forbade French detachments shooting before an enemy would do it [10].

The method of surprise

A surprise is when an attack begins unexpectedly for an adversary who is not prepared to a struggle and can be easily defeated with a little engagement of forces. This method may have a wide application also at every stage of struggle waged, even throughout a long period, or in individual cases of sports fights (both at the beginning and a match's end, etc.). An extreme case of using this method may be efforts to make an adversary to be well informed about our desires and actions. The steps of an adversary who had been informed are easy to be foreseen what gives possibility of a rational parrying them back.

To this method we do not qualify non-aim actions although the effective ones. That is ascribed to unpredictable people. That was in case of gaining by Cleon a small island of Sphacteria, which was through a long time defended by the Spartans (during The First Peloponnesian War). Cleon, after Nicias had been dismissed from commanding the Athenian forces, against all rules, completely surprised defenders of this small island by a frontal attack and won [10].

References we use in describing the methods of struggle are at the same time evidence of a realized purpose of this paper. Belles-lettres, the Saint Books, historical and philosophical texts were a crucial inspiration for

Tadeusz Kotarbiński, a creator of the theory of struggle as well as for praxiologists who developed this theory.

DETAILED THEORIES OF STRUGGLE

The theory of destructing (a cybernetic theory of struggle)

Józef Konieczny was dealing with a mathematical theory of struggle [16] but first of all he developed a theory of destructing [17]. He underlines that the laws of armed struggle were a research subject of many authors. He thinks that much new items may introduce to this area of scientific exploration basing the theory of struggle on the theory of destructing. Possibility of building a modern theory of struggle he perceives in joining two ways. The first one is elaborating a qualitative theory of struggle which lies on a conceptual apparatus of praxiology, cybernetics, a formal language of mathematical logics, and the set theory. The other – a qualitative theory of struggle that lies mainly in building mathematical models and its results are decisive algorithms of various detailed problems. Worth of underlining is also a statement of Konieczny that purposive destructing takes place in activity which is not an armed struggle [17, p. 24].

In this paper we are but interested in exclusively these activities that qualify themselves to a negative co-operation (though in part or a chain of unit's or team's actions alternatively), independently from a level on which a struggle goes on. Moreover, in contemporary times – if you want to be precise – treating “an armed struggle” as a synonym to “a military struggle” is not justified. An armed struggle versus a terrorist (or a group of terrorists) may be led by soldiers, but also policemen, bodyguards, and a man being no functionary of any services, or even a minor person. An armed struggle is not a main purpose but may be an instant mediate aim (and that is so in reality) *operations other than war* the so-called *United Nations stabilization missions* with participation of international armed forces. When Kotarbiński was creating and developing the general theory of struggle these concepts (first of all the actions that help of these concepts are described) were not used in a strict meaning (in the past the army were not used in situation of social conflicts or even the international ones under the rigor of using weapons “in the last resort”).

That is why in analyses of determined events of a negative co-operation the operating with a concept of “a destructing struggle”, independently if the struggle is waged in “a basement” or “an intermediate level” is justified. In many cases then a boundary between an armed struggle and “a non-armed” one is floating. Sometimes people connected with a negative co-operation come

to a destructing struggle even when starting a conflict had not intended to do it. Formulating these statements Roman M. Kalina assumes that destructing a man in an intentional way you can do it not using other tools besides own mind and body [18, pp. 25–26].

The theory of a non-armed struggle

Jarosław Rudniański, when developing a general theory of struggle, ordered above all its language (a conceptual apparatus). Repeatedly, we gave evidence of it in the above text. As the biggest contribution of Rudniański in this area of scientific exploration we assume an elaboration of a complete theory of non-armed struggle as well as the theory of compromise [4].

An essential work of Rudniański *A Compromise and a Struggle* (1989) was written – as the author emphasizes by himself – in would-be “two stages” [4, pp. 8–9]. The general theory of struggle was published during the Martial Law in Poland (1983) in under a disguised title *Elements of praxiological theory of struggle. From problems of a negative co-operation* [19]. Contents of these elements and problems were in fact precise allegations of the theory of a non-armed struggle. Although, the impression of 2,000 copies was legally edited by State Scientific Publishers (Państwowe Wydawnictwo Naukowe) practically this book was not accessible. The author in the work edited in 1989 explicates that those theory of struggle was left as-to-see ‘without the ending’. As follows he gives grounds that inasmuch you may write about the theory of struggle mentioning a compromise insomuch that is hard or even not possible to analyse this compromise with sense, abstracting from a struggle.

During the Martial Law professor Rudniański for a part of underground “Solidarity” leaders was a teacher of the theory of struggle. He was teaching above all the effective usage of methods of non-armed struggle that were elaborated and described. Not surprisingly, that the authorities have hampered the popularization of the work published in 1983. Rudniański accurately or sufficiently described, among others, immediate methods of a non-armed struggle: methods of gaining allies in teams of current and potential adversary, methods of infiltration. On one hand, he unmasked the ways and methods of activities of communist authorities, on the other – showed how to disclose agents and how to penetrate into the enemies' teams by himself. He disclosed the connection between a camouflage of violence and a camouflage of authority. He described the method of the depriving situation, methods of strengthening the needs of expansion, a general method of canalization of ideals, and a method of intensification of fear. He defined and widely justified a rule of a controlled surrounding in a non-armed struggle.

A separate group of problems he named the anthropotechnical activities: he determined crucial features of these actions; a method of plot of interests as well as a method of potentialization of scope and degree of authority; a method of a chosen group; similarities and differences among direct methods of anthropotechnics and indirect which are made instrumental by methods of controlling the surrounding in a non-armed struggle; likewise he described a problem of the truth and goods in applied methods of an anthropotechnical action.

In a group of problems that refer to efficiency of a non-armed struggle with stronger adversary he distinguished: a wider and a narrower comprehending of strength (we referred to this quest hereinabove); a moral strength of a unit and a team; main directions of a strategy to use moral strength in a non-armed struggle versus a stronger adversary seeing a numerous and material consideration; likewise master tricks and compulsory situations.

He closes a theory of a non-armed struggle with praxiological and ethical aspects of utilizing science and a negative co-operation. He talks out three detailed problems: similarities and differences among the people of science and the people of the authority in an upper-intermediate and a macro scale; managing the people of science; likewise a method of stratification.

In the contents of the work from 1983 these problems were not specified. We omit detailed problems of the second part of the work of Rudniański – the theory of compromise – because they trespass beyond a set of problems of our publication.

The theory of defensive struggle

Developing the theory of defensive struggle began in 1991 Roman M. Kalina [18]. He assumed elementary criteria of a defensive struggle as: lack of provocation from part of the subject, onto which the aggression is directed, a priority of attack that is a domain of an aggressor as well as adequacy of counter-action means (not always identical with the sufficiency). Among agonistic behaviours a defensive struggle is distinguished in addition by a way of utilization of the struggle means that is subordinated to a following system of action: (1) cramping the movements of an aggressor without destroying his or her struggle's tools; (2) cramping the movements of an aggressor with destroying his or her struggle's tools; (3) injuring an aggressor; (4) a physical destruction of an aggressor (depriving him or her the life without inflicting not needed sufferings, that is at respecting rules of a noble struggle).

Accepting these theoretical criteria gave a base to create simulation research tools of defensive dispositions

and courage (bravery) [20,21]. The theory of the defensive struggle narrows a subject of research to a situation when one subject assails unjustified way on the other subject. The theory is apt to analyses of such events from a micro to a macro scale.

The empirical theory of combat sports

The theory of combat sports worked out by R. M. Kalina [22] is just narrowed to a micro scale – fights of one versus the other as it has place just in a group of qualified sports to combat sports or an individual versus a small group as it happens recurrently at non-sport confrontations. A criterion that links these both categories of grapple is directing these actions onto the adversary's body (in sport we will say – a competitor's one). A field of combat sports theory is identified of three this domain's set: pragmatic, utilitarian, mental. A set we call *pragmatic* includes entirety of these empirical and comprehensive systems that link directly the problems of preparing a sportsman to a struggle being in an immediate clash versus a competitor, his or her actions and behaviours at struggle and when it is over. *Utilitarian* – analogically, entirety of these empirical and comprehensive systems that link directly the problems of preparing a sportsman to a struggle being in an immediate clash versus a competitor, etc. This domain of the combat sports theory has tight connections with the theory of the defensive struggle. *Mental* – empirical and comprehensive systems connected mainly with ethical aspects of preparing a man to a struggle which is in a direct encounter of the parties, actions and behaviours in course of a struggle (combat sports and non-sport confrontations) and when they are over. This domain contains also systems of comprehending to explain and clarify the relations being among these both kinds of struggles of common property – a direct encounter of the parties, in which the actions are directed onto an adversary's body.

Another utilization of the theory of struggle

In the last twenty-five years of the last century, when in Poland the theory of sport was developed by representatives of the so-called Wrocław School, were founding essential theses of many works on praxiology, especially on the general theory of struggle [23–27]. The clearest way the theory of struggle is linked the theory of team games by Dziąsko and Naglak [24].

Hand game in a literary description of Hemingway – two of possible conceptions of analysis

This chapter of our paper is in a certain sense an empirical part. We are drawing a brief analysis described

Defensive dispositions – a compilation of human features and properties of biological and personal nature to determine (with a certain level of probability) readiness and capacity to counter-act different forms of offensive behaviours of other people and specially violence and/or aggression from their part. To essential defensive dispositions belong: self-defence instinct, inner development, moral strength, readiness to perform the death as well as a readiness to take a victim of life in a defensive struggle [20, p. 29].

Courage – a skill in a fair matter. In the case of courage to a praxiological evaluation one adds the moral evaluation [3, p. 59].

Hand game – armwrestling is the sport today.

by Ernest Hemingway in “The Old Man and the Sea” [28, pp. 58–59] of the armwrestling of the main character with the negro, in two different perspectives. The first that is based on the literary knowledge criteria and a reader’s perception that is making the literature more concrete. This concretization results from a conception of an opened work by Umberto Eco to allow many read-outs and interpretations by an active reader who while reading used own knowledge, susceptibility, and intelligence as a peculiar code to allow an individual read-out of the piece of work. The description that is based on these criteria was published by Leon A. Krzemieniecki in 2010 [29]. The other – based on the theory of struggle criteria – is a consequence of realizing the paper’s purpose.

1. **Agon began** on Monday at the same time. At this fight and rivalry symptomatic are the rules which are used by Santiago, the rules we can guess. “The techniques” quoted earlier in a big abbreviation in the Kotarbiński’s proposal confirm in a considerable degree convergence and using some of them in this sport show and competition. With no doubt, that is because a sport show played on a harbour inn and in an interesting scenery – shapes of the competitors quaking on the wall. The competitors wrestle in it and collective audience demonstrates a big engagement. The people are betting, the viewers are changing because of a long time of rivalry, the suggestions of the quicker finishing the Agon and announcing “the unmatched play”.

The Negro supports himself with cheering means in form of rum and cigarettes served him by his sympathizers and supporters. The rivalry is fierce and brutal: blood is flowing out from under the nails over the fingers. Looking to each other’s eyes they want to get a psychological preponderance. Referees change themselves every fourth hours to rest and sleep. The win seems to be achieved by a huge negro who forced at a certain moment Santiago pushed “his hand almost three inches ahead”. That are but only appearances. Equally well, it can be a trick from the part of Santiago, supported by a capacity of predicting because after a moment “But the old man had raised his hand up to dead even again”. These methods of wise cunctation, giving up, misleading can confirm “a play to delay” and can at the same time to feint (appearances of weakness). This moment besides could be exhausting as for strength capacities of a negro. A fisherman, convinced about his preponderance is already sure that he is going to win over his adversary. And that is going to be so when “he had unleashed his effort and forced the hand of the negro down and down until it rested on the wood.” There is an outsmart of an adversary, a minimum of movement that is typical for an authentic struggle quickness and effectiveness of activity as a result of a decision undertaken. Depriving

of his own fear, pain, and weakness he had got a master of concentration, the will, and self-organization (conf. patterns of the Eastern arts of combat that show a stability of an ordered inner life, mastering the body and emotions in yoga, karate, and the Buddhism). The competition has its epilogue. From that time on the fisherman was called the Champion and in a revenge duel he decidedly won for the negro lost his self-confidence completely (the observers’ bets were low) [29].

2. **That is an example of an encounter** that is a struggle in a certain sense destructive (“*Blood came out from under the fingernails of both ...*”) when both sides attacked each other for many hours. The adversaries were fighting in circumstances in which the surrounding was in a constant motion independent from them (“...*people went in and out of the room (...)* The negro’s shadow was huge and it moved on the wall ...”). None of the parts was able to realize the most general rule of the struggle that is a facultative (every) moment as soon as possible to change both a plan of action as well as its manner. The majority of time throughout both adversaries effectively used the technique of operating the capacities of acting. The negro as the first applied the method of own forces’ concentration (“*Then the negro (...) would try for a tremendous effort and once he had the old man ...*”) – ineffectively though for a moment long he was in a positive position. The old occurred a more effective cunctator, he properly assessed the situation (own and adversary’s forces, and the surrounding), he gave the evidence of the higher activity’s economizing, properly estimated the decisive moment and used the method of own forces’ concentration perfectly – he won.

CONCLUSIONS

We do not try to comment the presented analyses. That is not this paper’s aim. Nevertheless, being conscious of own limits we were doing our best to show capacities of various sciences in analysing a phenomenon of struggle in its numerous alternations and catches. We do share, at the same time the opinion of J. Rudniański that agonology is a gorgeous tool of theoretical research which is due to a contestation at range of different domains of science. No other but professor Rudniański commenced in discussions over a human activity the method of matching skills’ evaluations (the praxiological ones) with the structures of ethical and moral values’ criteria. Including the theory of struggle into the interdisciplinary phenomena analyses of struggle that are described in the belles-lettres, may occur valuable in a cognitive and didactic sense. A research perspective is attracting because of at least two reasons. Firstly, the praxiological theory of struggle keeps developing.

Secondly, many descriptions of fights in the belles-lettres had been published many years earlier before agonology originated. Therefore, results of such research can deliver many benefits for both domains.

Moreover, a review of the theory of struggle which has been done in this paper is the evidence that is a Polish

scientific special line and majority of publications are published in Polish. The theory of struggle is then unknown universally in the world of scientists. If popularization of knowledge is one of main mission of science then Barczyński et al. [30,31] are right that *Impact Factor* cannot be an only criterion of qualifying a given knowledge as more or less valuable.

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