

HISTORY: BIBLIOGRAPHY

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A review of major Polish scholarly studies on fencing in the 21st century

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Abstract

Aim and Problem. The aim of this paper is an overview of 21st century scholarly and popular publications by Polish authors on fencing theory and practice. It also attempts to identify the main research trends represented in these publications. The chronology of the review covers more than a decade of theoretical and technical achievements of Polish fencing.

Material and Method. The methodology used includes document analysis, induction, deduction and synthesis. The present review addresses two research questions: What is the current state of research on fencing in Poland? What are the prevailing research topics in the studies conducted in various academic disciplines?

Results and Conclusion. The author briefly discusses the achievements of Polish fencing literature until 1918, between 1918 and 1945, and from 1945 until 2000. The review of Polish works on fencing from the 21st century shows that the number of publications as well as their thematic range have increased significantly. The main topics covered by the Polish authors focus around theory and methodology of sport training, fencing psychology, kinesiology, and history. The majority of published monographs deal with fencing theory and methodology.

Introduction

Fencing is a combat sport practised by men and women, with three different weapons: the foil, the saber and the epee, each contested with different rules. The fencing piste is 14 m long and 1.5 m wide. Fencers wear special fencing dress, mask, gloves and plastrons. A referee presides over the bout with the aid of an electrical scoring apparatus.

Foil and sabre are governed by priority rules. This means that a fencer initiating an attack has priority in scoring before a fencer who counterattacks. Epee involves no rules of priority, i.e. whoever hits the opponent first, scores a point. Fencers must hit the so-called valid target area on the opponent's body. If a hit is landed outside this area, points are not scored [Roi, Bianchedi 2008].

The names for fencing have different etymologies in different languages. In ancient India fencing was known as *carma*, in Scandinavia *skrimen*, in France *escremie* or *eskermie*, in Germany *skrimen*, in Spain *esgrima*, in France *escrime*, and in Italy *scherma*. Fencing became a sport when it ceased to be a military activity aimed at

killing, wounding, or eliminating the enemy. The introduction of the foil as a practice weapon and the mask in the 18th century led to the development of recreational fencing (next to the existing real military fencing), and in the 19th century, to modern competitive fencing. The most fundamental rule of fencing is to hit the opponent while avoiding being hit. Fencing involves offensive and defensive actions with a fencing weapon: the foil, the epee and the saber. Modern competitive fencing derives from military fencing and has its own theoretical and methodological frameworks [Zabłocki 2011].

In recent years the number of published monographs and articles on competitive fencing in Poland has been clearly on the rise. The aim of this paper is an overview of 21st-century scholarly and popular publications by Polish authors on fencing theory and practice. It also attempts to arrange the state of theoretical knowledge on fencing and to identify selected research trends. The review starts with the discussion of a number of works from the very beginning of the 21st century dealing with the application of research methods in sport theory and practice, e.g. sport psychology, kinesiology, and sport

history. The chronology covers then more than a decade of theoretical and technical achievements of Polish fencing. The gathered material is interpreted using methodology of historical sciences, e.g. deduction, induction, and source analysis. Synthesis was used for the formulation of final conclusions.

The present review addresses two research questions: What is the current state of research on fencing in Poland? What are the prevailing research topics in the studies conducted in various academic disciplines?

The review allows the reader to follow chronologically the main considerations of Polish fencing researchers. The reviewed literature may encourage further in-depth analyses and may help understand the development of competitive fencing. The discussed works may also indicate new areas of future research.

From the beginnings of Polish fencing theory until 1918

Swordsmanship was historically an important component of military education of the Polish youth. By the late 16th century the saber had become the Polish national weapon. With its curved blade it turned out to be more effective than the sword. Further developments in saber fencing led to the emergence of the Polish saber fencing school in the 17th century and to the establishment of fencing as the most popular sport in Polish schools at the turn of the 18th century. Fencing was practised in the famous Krzemieniec Lyceum (1805-1832) and in the Kraków and Lvov universities. In the 19th century saber fencing was also taught in fencing and gymnastic schools in Warsaw and Lvov, in Sokoł societies in Lvov (est. 1867), Kraków (est. 1884) and others, as well as in fencing circles in Vilnius (1868), Lvov (1867), Kraków (1900) and in the Society of Movement Games in Lvov (1904) [Łuczak 2002].

Very few Poles contributed at that time to fencing theory. The most prominent Polish authors included Michał Franciszek Starzewski, who in his monumental treatise *O szermierce* (On Fencing) stated that “fencing is a science” [Starzewski 1932], and Karol Bernolak who in *Podręcznik szermierczy i krótki opis szabli polskiej* (Fencing manual with a short description of the Polish saber) observed that “fencing training is one of the most wholesome and beautiful physical exercises” [Bernolak 1898]. Bernolak made his analysis of saber fencing technique and tactics using the premises of the French fencing school, and he also made comparisons between the old Polish terminology for saber fencing cuts with the existing names in French, Italian and German [Bernolak 1898].

In his treatise Starzewski described the Polish saber fencing school (featuring frequent cuts to the head and the trunk), cross-cuts with rapid repetitions, and the

so-called parry quarte, known in Europe as the hellish quarte [Starzewski 1932]. Starzewski instructed fencers according to the Polish school, but he also knew the French and German methodology [Bernolak 1898].

Polish fencing masters taught both long and short cuts. Antoni Durski in his manual *Szkoła szermierki sieczonej* (Fencing with cutting weapons) demonstrated technical and tactical fencing issues in a fairly novel manner, especially, when it came to teaching fencing according to the Polish model. Fencing became part of the curriculum of the Sokol gymnastic societies, and was considered an important determinant of psychophysical development and national identity. In Lvov, Jerzy Żytny – a gymnastics teacher and fencing master in the fencing section of the Sokol society published a book titled *Krótki zarys szermierki na szable podług systemu włoskiego* (A short outline of saber fencing according to the Italian model) (1900). He was followed by Stanisław Marian Tokarski, the author of fencing handbook *Szermierka bronią sieczną* (Fencing with cutting weapons), and Bolesław Gnoiński who wrote a brochure *Szkoła szermierki* (School of fencing). Tokarski in his fencing instruction borrowed from the experiences of the Italian and German fencing school. Gnoiński, on the other hand, made use of the Italian methodology, which in combination with the rules of the Hungarian school dominated Polish fencing in the interwar period.

Fencing theory and methodology in the years 1919-1939

The interest in fencing theory started to grow after Poland regained independence in 1918. The most renowned authors of fencing training manuals published between 1919 and 1939 were Wiktoria J. Goryńska – *Szermierka* (Fencing) (1935), Władysław Sobolewski – *Szermierka na szable* (Saber fencing) (1920), and Włodzimierz Mańkowski – *Szermierka na szable* (Saber fencing) (1929). Wiktoria J. Goryńska – a fencer and referee in the KS “Warszawianka” sports club as well as an activist of the Polish Fencing Association, propagated women’s sport and recreation as well as, little known at that time, women’s foil fencing. She promoted fencing for fun, health, and leisure. Mańkowski in his manual *Szermierka na szable* (Saber fencing) (1929) demonstrated the methodology of saber fencing according to the Italian fencing school and provided practical examples of activities on the fencing piste. As the first author in the Polish literature he described the fleche, and provided useful hints for fencing against left-handed opponents and the so-called “naturalists”. Similar rules of competition against left-handed fencers were described by Władysław Sobolewski in *Szermierka na szable* (Saber fencing) (1920). Both Mańkowski and Sobolewski used concurrently the Polish and Italian fencing terminology.

Fencing classes were held in various types of schools, in the military and fencing sections of sports clubs and student corporations (academic fencing). Fencing was part of the curriculum of the Central Military School of Gymnastics and Sports in Poznań, the Central Institute of Physical Education in Warsaw, and the Academy of Physical Education in Warsaw. However, very few fencing enthusiasts published on fencing theory or wrote fencing training manuals.

Attempts to propagate competitive fencing among secondary school students in Poland in the late 1930s, especially in the aftermath of the Berlin Olympics of 1936, were not successful. By the outbreak of World War II fencing had failed to become a mass sport in Poland [Łuczak 2001: 125].

Publications on fencing after World War Two (1945-2000)

Theory and methodology

After WWII, research on professional sport and competitive fencing was taken up by higher schools of physical education (established in 1950), the Academy of Physical Education in Warsaw (since 1945) and the National Institute of Physical Culture in Warsaw (since 1953) [Łuczak 2002]. Initially, some remarkable studies on sport theory, training methodology and application of research in sport were carried out by Otton Fiński, who in one of his works evaluated the contemporary advances in fencing [Fiński 1952]. Most of these studies, however, merely touched upon the subject of competitive fencing [Demel 1964].

In the early 1950s studies on theoretical and practical aspects of competitive fencing were published by Zbigniew Czajkowski. His main contribution was *Nowa szermierka* (New Fencing) and its enlarged and revised version “for all fencers, mostly those who take the first steps at fencing and have not yet come to appreciate the beauty of this sport”. His works proved highly useful for fencing beginners as well as for fencing coaches in clubs and national associations [Czajkowski 1954a: 137-138]. Czajkowski’s other fencing books included *Szermierka na florety* (Foil fencing) [1954b] and *Teoria i metodyka współczesnej szermierki* (Theory and methodology of modern fencing) in 1968 [Czajkowski 1968, 1977: 19-20, 1987, 1996].

In the 1960s, in particular before the 1968 Summer Olympics in Mexico City (elevation 2400 m), a long-term research project began in Poland on the Problem 105 [Gaj 1999] aimed at finding solutions to the problem of sports rivalry at high altitudes featuring atmospheric hypoxia. Other studies from the period concerned nutrition of fencers, personality and reaction times. It should be emphasized that in the 1970s the knowledge about

fencing specifics was still rather rudimentary. Training loads, for example, were adopted selectively in fencing training, mostly on the basis of coaches’ intuition rather than research results [Celejowa 1975; Olszewska 1975; Borysiuk 2006]. A few fencing coaches, e.g. Adam Medyński or Zbigniew Czajkowski, were seeking, however, new training methods using biorhythm charts and reaction times [Zawadzki, Skiba 2009].

In the 1980s and 1990s fencing research was conducted as part of the ministerial programme “Training, sport competition and regeneration”. The reports from the 2nd Scientific Congress on Physical Culture in Gdańsk in 1986 included criteria of assessment of fencing training loads [Wit, Buczek, Fidelus, *et al.* 1987], and – in particular – indicated the relationship between the development of attitudes towards high performance sport and fencing practice [Pawlak 1978]. Within the 3rd ministerial programme research was conducted on the optimization of the training process, especially on training loads in fencing [Wit, Wit, Krogulski *et al.* 1987]. A psychological study carried out by Kłodecka-Różalska in 1986 revealed an improvement in mood and comfort and a reduction in the anxiety level among elite fencers. These results had no application in general population studies [Kłodecka-Różalska 1987]. The need for a broader application of psychological training, endurance fitness exercises and training individualization in fencing was also indicated by Zbigniew Czajkowski [2000].

Publications on fencing after 2000

Significant development might be observed in the quality and number of Polish studies on training theory, psychology of sport combat and fencing history in the first fifteen years of the 21st century. The recent growth in the studies resulted from contributions from Zbigniew Czajkowski, Maciej Tomczak, Zbigniew Borysiuk, Maciej Łuczak, and Gabriel Szajna, affiliated with university schools of physical education in Katowice, Poznań and Opole.

Theory and empirical research

Other authors of fencing studies belong to the younger generation of researchers. One of them is Zbigniew Borysiuk¹ from the Faculty of Physical Education and Physiotherapy of the University of Technology in Opole, a former fencer and fencing coach, whose most famous pupil was Dariusz Gilman – a gold and silver medalist

¹Z. Borysiuk published papers in such indexed journals as *Journal of Human Movement Studies*, *Biology of Sport*, *Człowiek i Ruch / Human Movement*, *Journal of Human Kinetics*, *Brazilian Journal of Kinanthropometry*, and many others.

at saber world championships. Borysiuk has published several monographs and articles, e.g. *Psychomotoryczne i osobowościowe uwarunkowania poziomu mistrzowskiego w szermierce* (Psychomotor determinants of elite fencing level) [Borysiuk 2002, 2005, 2006]; *Modern Saber Fencing; Struktura czasowa procesów informacyjnych w wybranych sportach walki* (Temporal structure of information processes in selected combat sports); and *Movement and Health* – Proceedings of the 5th International Conference on Movement and Health, Faculty of Physical Education and Physiotherapy, Opole University of Technology, Opole 2006.

Modern Saber Fencing published in 2009 and accompanied by a DVD entitled *Saber Technique and Tactics* appears to be the most valuable work by Borysiuk. The book is aimed at fencing academics and enthusiasts in Poland and abroad, and draws extensively on Borysiuk's observations and analyses of various fencing competitions and his coaching experience in the Zryw Sports Club, the Society of Fencing Enthusiasts and the Academic Sport Union of the Opole University of Technology, his comprehensive notes and video recordings.

In his monograph Borysiuk analyzes the historical evolution of all types of fencing weapons, tenets of the Polish saber fencing school in the 19th and 20th century, fighting styles of world's elite saber fencers in the late 20th century, techniques and modern training forms of modern sabreurs, outlines of saber fencing lessons, basic forms of saber training, e.g. pair and queue exercises, and nutrition of fencers. Furthermore, he discusses studies on psychomotor abilities of fencers – unique in Polish fencing literature - diagnostic fencing tools useful for selection of fencers and determination of their level of advancement, practical applications, tools for assessment of fencing predispositions, assessment of psychomotor reactions, novice and expert training of simple and complex reactions to visual, tactile and acoustic stimuli and application of research results in coaching practice with regard to psychological types of fencers. Borysiuk's monograph can be a useful aid for all saber fencing coaches who train fencers at various levels of tactical and technical advancement. The book is richly illustrated and comes with a DVD with videos recordings of technical and tactical actions performed by elite saber fencers [Borysiuk 2009].

In 2002 Borysiuk published *Psychomotoryczne i osobowościowe uwarunkowania poziomu mistrzowskiego w szermierce* (Psychomotor and personality determinants of elite fencers) [Borysiuk 2002]. The work is a thorough analysis of psychomotor and personality variables affecting sports results, and proposes ways in which non-significant determinants of fencers' level can be identified. It also discussed somatic indices and components of fencing-specific predispositions.

Movement and Health Conference Proceedings [Borysiuk 2006a] consists of articles peer-reviewed by renowned experts and conference contributors. The

monograph was also published on a CD. It is an updated review of the state of fencing research, current trends and prospects. It contains 86 articles: 56 written by contributors to the scientific session of the conference, 12 by invited speakers – professors representing Polish and foreign academic centers, and 24 by authors of conference posters. An article dealing with combat sports entitled *The influence of coordination training on technical skills and effectiveness of sports competition in wrestling* was contributed by Zbigniew Borysiuk, Dariusz Gierczuk, Jerzy Sadowski. They noted that an increase in coordination loads in wrestling training has a positive influence on wrestlers' performance of the majority of technical elements. Borysiuk's other contributions to the volume were co-written with Teresa Socha and Michał Morys, i.e. *Analysis of the age of the world elite women fencers* and *Preparation of coordination of female saber fencers*.

Z. Borysiuk as the Head of the Chair of Anthropometrics of the Faculty of Physical Education and Physiotherapy conducts his research using a 16-channel Noraxon sEMG system equipped with high-speed cameras enabling comprehensive biomechanical analyses of motor patterns and quality of movement technique in various sports. Thanks to the sEMG system athletes and coaches can monitor and adjust their motor patterns, while injured athletes can test the progress of their recovery [Borysiuk 2014].

Another Polish fencing researcher is Maciej Tomczak² from the Department of Psychology of the Uni-

² Maciej Tomczak initially focused on the history of fencing in his BA thesis on the development of wheelchair fencing in Poland, 1991-1999, Konin 2000, pp. 66. He also completed two MA theses: one on Zbigniew Czajkowski's life, scientific and sports career, defended at the Faculty of Physical Education of the University School of Physical Education in Poznań, Poznań 2002, pp. 99; and the other on psychological determinants of successes in fencing in adolescents, defended at the Faculty of Social Sciences of Adam Mickiewicz University in Poznań, Poznań 2008, pp. 91. In the latter work Tomczak revealed that the majority of adolescents practicing fencing fulfill their essential needs both during fencing training and fencing competition. A trainer should facilitate the development of life skills in his athletes using properly selected stimulation. He also observed that the degree of difficulty of tasks assigned to an athlete must be slightly higher than the degree of a task an athlete can accomplish on one's own. Tomczak also defended his doctoral dissertation entitled *Psychospołeczne i motoryczne uwarunkowania efektywności działania w szermierce* (Psychosocial and motor determinants of effectiveness in fencing), Poznań 2005, pp. 143. His monograph [Tomczak 2010] consists of six chapters. Its main objective is to define determinants of sports success in adolescents practicing fencing. The practical aim of his work is to offer results of research on adolescent athletes to coaches. In the first chapter Tomczak makes a general discussion of fencing origins and rules. In the second part he presents psychosocial aspects of develop-

versity School of Physical Education in Poznań [Tomczak 2000, 2002, 2005, 2008]. His monograph *Psychospołeczne uwarunkowania rozwoju sportowego w okresie dorastania na przykładzie szermierki* (Psychosocial determinants of athletic development in adolescents. A case of fencing) [Tomczak 2010] is aimed at anyone interested in getting to know the psychological mechanisms of human activity. His analysis of results of studies on adolescent athletes encourages reflection on the mental “state” of young fencers. The book is both an analytical enquiry and a practical manual. Particularly noteworthy is the chapter *Wybrane właściwości psychiczne jako czynniki istotne dla rozwoju oraz wyniku sportowego szermierzy w okresie dorastania* (Selected psychological traits as factors affecting the sport development and successes of adolescent fencers), in which Tomczak stresses the importance of emotional reactivity, agility, motivation and thinking abilities in the athletic development of fencers.

Tomczak’s research and statistical analysis is based on the correlation-regression model allowing for a thorough testing of hypotheses on correlations between variables. He successfully applies such statistical tools as matrices of correlations for independent and dependent variables, regression analysis, multifactor analysis of variance, canonical correlations, cluster analysis, and analysis of regression remainders. Tomczak also discusses the effectiveness of actions in elite fencing in *Profilę właściwości temperamentalnych a wyniki sportowe szermierzy w kategorii wiekowej juniora* (Profiles of temperamental traits and sports results of junior fencers) [Łuczak 2013]. He notes that determination of inter-group differences

ment of adolescent athletes. Tomczak points to changes in the physical, cognitive, and socio-emotional development in adolescence. He also indicates relationships between development and sports results and motivations of young athletes as well as hazards of high performance sports. Tomczak duly notes that the existing correlations between selected psychological traits (emotional reactivity, agility, achievement motivation, thinking ability) not only affect the sports development and results, but also human development in general and success in one’s social life. In other chapters Tomczak describes his research model focusing on the research problem, methods, hypotheses, variables and their structure, research tools and characteristics of subjects. In the final chapter he concentrates on the practical application of his research in fencing training. He stresses, however, that his study does not provide ready made solutions to all problems of adolescent athletes or problems related to psychological sport selection of adolescents, but it only offers certain guidelines. Maciej Tomczak is also a fencing coach, a youth, individual and team world champion, as well as a silver and bronze medalist at the European fencing championships and multiple Polish national sabre champion in various age categories. In his academic career Tomczak focuses on sport psychology, and fencing psychology in particular. He has published in such indexed journals as *Journal of Human Kinetics* and *Human Movement*.

in fencers’ profiles of temperamental traits with the use of K-means clustering algorithm had a higher degree of predictability than determination techniques using simple correlations.

Tomczak’s another study on psychosocial determinants of effectiveness in elite sports, with a particular emphasis on combat sports, is *Styl rywalizacji a efektywność działania w sportach walki – analiza psychologiczna* (Competitive styles and effectiveness of actions in combat sports: A psychological analysis). The most significant outcome of this study is the thorough analysis of competitive styles in combat sports as a significant, indirect factor that might explain the relationships between psychological traits and effectiveness of actions in sport. Tomczak’s monograph contains a special questionnaire form on the competitive styles in combat sports as well as its analysis. Another book by Tomczak demonstrates the possibility of application of methodology and statistics in anticipation of sports results [Tomczak 2012]. Tomczak’s methodological achievements, demonstrated in his publications and conference contributions, include designing of a tool for assessment of competitive styles in combat sports, adapting two tools measuring motivation in sport activity and applying methodology and statistics in physical culture sciences.

In 2009, a work titled *Współczesne problemy badawcze w szermierce* (Contemporary research problems in fencing) was published on the initiative of Teresa Socha from the University School of Physical Education in Katowice. The contributors to the publication were renowned fencing theorists and practitioners such as Zbigniew Czajkowski [2009a, b]. The research issues tackled by the authors of particular articles included *Information processing during sensorimotor activities; Analysis of hits by elite female epee fencers during the Polish championships; The age of world elite fencers; Talent identification in sports with open motor habits; Sports results and the age of Olympic finalists; Contemporary research problems in fencing; Aerobic and anaerobic fitness of female foil fencers at different ages and training levels; Individualization of training of fencing-specific skills based on responses; and Fencing literature in Polish*. The publication with such a great thematic diversity can be of immense help to all fencing trainers and practitioners.

Furthermore, Maciej Łuczak was the editor of the volume *Szermierka we współczesnych badaniach naukowych* (Fencing in contemporary research) in which the authors also presented considerable thematic diversity as a result of contributions from authors representing both the humanities and sciences. All the articles in the publication combined theory with practice. Their subjects included fencing methodology as well as sport psychology, philosophy, pedagogy, history, laws and biomechanics. Theoretical themes tackled by the contributors were concerned with the evolution of fencing research, application of genetic research and talent identification in fencing. Some authors focused on the issues

of law regulations in fencing, ethics and fair play. In other articles the authors recommend implementing the training process accounting for an appropriate sequence of training stages and coordination abilities leading to the development of motor potential and sports skills. Application of training loads must account for temperamental differences of fencers (e.g. strength of stimulation and mobility of nervous processes), psychological support (e.g. relaxation, visualization, biofeedback) and high quality nutrition. Fencers' general fitness can be determined with the use of biochemical analysis (blood levels of iron, testosterone, cortisol, creatine kinase and complete blood count). Also training control using tests or test batteries can be an effective measure of the quality and scope of sport training. In the training process coaches should constantly expand their theoretical knowledge and practical skills to avoid moving in a rut.

Psychological research using statistical analysis, rare in works on sport psychology, and the application of the correlation-regression model allowed the verification of hypothesis of correlations between variables. In his research Maciej Tomczak made a great deal of detailed calculations that can be very useful in modern fencing (e.g. correlation matrix for dependent and independent variables, regression analysis, multi-factor analysis of variance, canonical analysis, cluster analysis).

Katarzyna Sterkowicz-Przybycień [2007] in her description of the anthropometric profile of combat sports practitioners noted that men and women should display similar body mass proportions in open-weight category sports (fencing) and closed-weight category sports taekwondo, judo).

Nutrition of children and adolescents practicing fencing was the subject of articles and conference papers by Monika Radzimirska-Graczyk and Wojciech Chalcarz [Radzimirska-Graczyk, Chalcarz 2004, 2006, 2009].

A historical view

Fencing history has been the main area of research carried out for many years by Maciej Łuczak from the University School of Physical Education in Poznań. Initially, Łuczak was concerned with the history of fencing on a regional level and with biographies. His monograph *Szermierka w Polsce w latach 1945-1989* (Fencing in Poland, 1945-1989) is a synthetic study of history of competitive fencing in Poland. Łuczak discusses in his monograph such issues as the history of Polish fencing organizations, training and competitions; activities of the national and regional fencing associations, clubs and sections; fencing successes on the local, national and international levels; links between fencing, literature and art; fencing techniques and tactics, evolution of fencing combat and dress; fencing as part of other sport disciplines, fencing for the disabled; fencing in modern knightly tournaments, military fencing

– especially bayonet fighting and fencing in schools and academies [Łuczak 2002].

A regional history of combat sports is the subject of Gabriel Szajna's book *Sporty walki na Podkarpaciu w latach 1945-1989* (Combat sports in the Podkarpacie region, 1945-1989). The author describes there the development of fencing in the Podkarpacie region of Poland, activities of the Regional Fencing Association in Rzeszów and sports achievements of fencers from fencing sections from various regional sports clubs. Szajna also briefly discusses the figures of Olympic fencers from the region [Szajna 2011].

Studies on practical applications

Studies on fencing as a combat sport published in numerous monographs and articles were not only of interest to fencing coaches [Kalina, Stusiński 2004], but also to trainers of other martial arts and sports [Giermasiński, Magiera 2001; Topisz-Starzewska, Mleczo, Ryczek 2002].

Many famous coaches have used specialist fencing manuals such as *Theory and methodology of contemporary fencing* or *Fencing tactics*. For example, Bruce Lee in his famous book *Tao of Jeet Kune Do* published posthumously quoted extensively from the well-known fencing manuals by Julio Martinez, James and Hugo Castello, Charles L. De Beaumont, Roger Crosinier, as well as from textbooks on physical therapy, philosophy and boxing. He merely replaced the term 'fencer' with 'warrior', 'blade' with 'arm' and 'fencing' with "Jeet Kune Do" [Czajkowski 1985].

Theses and dissertations

In 2013 Mateusz Witkowski published a valuable doctoral dissertation entitled *Morphological, physical and social determinants of the level of foil-specific skills in the youth category* [Witkowski 2011].

Finally, fencing has been the subject of numerous MA theses completed by students of University Schools of Physical Education in Warsaw, Poznań, Katowice, Gdańsk and Wrocław. The areas of MA seminars included anthropology and anthropomotrics [Fajkis 2001; Walotek 2008], biochemistry [Górski 2011], history [Tomczak 2002; Wojciechowski 2003; Jeż 2006; Marczak 2008], physiology [Rosińska-Szromek 2007], psychology [Górniak 1989; Żurek 2005], and sport theory [Szewczyk 2002]. The topics of MA projects have been related to analyses of fencing duels [Kościucha 2006]³; methodol-

³ Kościucha in her study of saber fencing matches during the 2004 Polish National Championships noted that female fencers on the piste preferred mostly offensive actions (64%). Most often they performed feinted attacks (89%), usually end-

ogy of technical training [Dominik 2010; Rostek 2004; Wrotny 2005, 2007; Hetman 2007; Malerczyk 2007), fencers' reaction times [Piguła 2003] and many others.

Conclusion

The first decade of the 21st century, thanks to the research of Polish physical culture scientists on fencers and combat sports practitioners, witnessed the accumulation of new knowledge about sports training, fencing training methodology, motor coordination, simple and complex reactions, and biochemical and physiological changes in bodies of combat sports athletes. The number of research studies on various scientific and popular issues related to fencing in the 21st century has been clearly on the rise. Among the most renowned Polish theorists and practitioners of fencing we should mention Zbigniew Czajkowski (author of multiple methodological, pedagogical, psychological and practical studies on fencing published in Poland, Germany and the United States); Zbigniew Borysiuk, a kinesiology expert; and Maciej Tomczak publishing widely on sport psychology. The further development of fencing studies in Poland, in their theoretical and practical dimension, is possible thanks to the increasing involvement of faculty members of university schools of physical education representing various areas of research. It is strongly suggested that research studies should focus more on overloads of the organ of locomotion during fencing training, genetic determinants of fencing predispositions, relationships between the somatotypes, sport results and combat tactics. Fencing as an asymmetric sport generates anthropometric and functional asymmetries. It requires training, strength and control. The research on certain aspects of fencing will definitely enhance fencing training and will allow fencing coaches to avoid errors in their professional activities.

References

- Bernolak K. (1898), *Podręcznik Szermierczy i krótki opis szabli polskiej*, Wydawnictwo J. Styfi, 11-13, Przemyśl.
- Borysiuk Z. (2002), *Psychomotoryczne i osobowościowe uwarunkowania poziomu mistrzowskiego w szermierce*, Studia i Monografie z. 127, Politechnika Opolska, Opole, pp. 135.
- Borysiuk Z. (2005), *Współczesna szermierka na szable*, Centralny Ośrodek Sportu, Warszawa, pp. 119.
- Borysiuk Z. (2006), *Struktura czasowa procesów informacyjnych w wybranych sportach walki*. Studia i Monografie nr 115, Warszawa: Akademia Wychowania Fizycznego im. Józefa Piłsudskiego w Warszawie, pp. 148.
- Borysiuk Z. [ed.] (2006a), *Movement and Health*, Proceedings. 5th International Conference "Movement and Health", Faculty of Physical Education and Physiotherapy, Opole University of Technology, Opole, pp. 637.
- Borysiuk Z. (2009), *Modern Sabre Fencing accompanied by a DVD entitled Saber Technique and Tactics*, New York: SKA SwordPlay Books, Staten Island, pp. 235.
- Borysiuk Z. (2014), direct interview.
- Celejowa, I. (1975). *Badania nad bilansem energetycznym i zapotrzebowaniem żywieniowym sportowców* [in:] T. Ulatowski, *Geneza i działalność Problemu 105 w latach 1970-1974 (Efektywność treningu i walki sportowej oraz procesu odnowy)*, Part 2, Warszawa, pp. 70.
- Czajkowski Z. (1954a), *Nowa szermierka*, SiT, Warszawa.
- Czajkowski Z. (1954b), *Szermierka na florety*, SiT, Warszawa.
- Czajkowski Z. (1968), *Teoria i metodyka współczesnej szermierki*, SiT, Warszawa.
- Czajkowski Z. (1977), *Szermierka na szpady (technika - taktyka - trening - walka)*, SiT, Warszawa.
- Czajkowski Z. (1985), *O potrzebie korzystania z dorobku innych (rozważania o Bruce Lee, szermierce i treningu pięściarzy)*, "Sport Wyczynowy", no. 9, pp. 44-53.
- Czajkowski Z. (1987), *Szermierka, floret*, SiT, Warszawa.
- Czajkowski Z. (1996), *Psychologia sprzymierzeńcem trenera*, Centralny Ośrodek Sportu, Resortowe Centrum Metodyczno-Szkoleniowe Kultury Fizycznej i Sportu, Warszawa.
- Czajkowski Z. (2000), *Przed Sydney - wnioski z Atlanty*, „Sport Wyczynowy”, no. 1-2, pp. 112-117.
- Czajkowski Z. (2006), *Understanding Fencing. The Unity of Theory and Practice*, SKA SwordPlay Books, New York, pp. 378.
- Czajkowski Z. (2007), *Taktyka i psychologia w szermierce*, Wydawnictwo Akademia Wychowania Fizycznego w Katowicach, Katowice, pp. 456.
- Czajkowski Z. (2009a), *Błędne poglądy w nauce o sporcie oraz w działalności trenerów* [in:] *Współczesne problemy badawcze w szermierce*, Wydawnictwo AWF im. J. Kukuczki w Katowicach, Katowice, pp. 9-42.
- Czajkowski Z. (2009b), *Istota, właściwości i znaczenie uwagi w uczeniu się i stosowaniu nawyków czuciowo-ruchowych*, Wydawnictwo AWF im. Kukuczki J. w Katowicach, Katowice, pp. 55-72.
- Demel M. (1964), *Instytut Naukowy Kultury Fizycznej w Warszawie. Struktura i działalność w pierwszym X-leciu 1953-1963*, Wydawnictwo PWN, 12, Warszawa.
- Fiński O. (1952), *Próba oceny punktowej postępów w szermierce*, „Kultura Fizyczna”, pp. 880-887.
- Gaj J. (1999). *Kształcenie kadr trenerskich i badania naukowe* [in:] J. Gaj, B. Woltmann [eds.], *Zarys historii sportu w Polsce (1867-1997)*, PTNKF Sekcja Hist. KF, 182, Gorzów Wlkp.
- Giermasiński M., Magiera A. (2001), *Ocena wskaźnika FEV1 procent VC u szermierzy z uszkodzeniami rdzenia kręgowego*, "Postępy Rehabilitacji", no. 15, pp. 50-55.
- Kalina R.M., Stusiński T. (2004), *Analiza dynamiki walki światowej czołówki szermierzy*, "Wychowanie Fizyczne i Sport", vol. 48, no. 4, pp. 307-316 (il., bibliogr. Item 20).

ing in hits to the head. However, they were more effective in defensive actions (58%) than in offensive actions. The most effective defensive actions were stop-hits (38%).

26. Kłodecka-Różalska J. (1987), *Ocena bezpośredniego wpływu transcendentalnej medytacji na samopoczucie i sprawność percepcyjno-motoryczną szermierzy*, „Sport Wyczynowy”, no. 2-3, p. 68.
27. Łuczak M. (2001), *Fencing in Poland up to 1939*, “Studies in Physical Culture and Tourism”, Poznań, vol. 8, pp. 65-66.
28. Łuczak M. (2002), *Szermierka w Polsce w latach 1945-1989*, Seria: Monografie no. 348, Wydawnictwo AWF, Poznań, pp. 392.
29. Łuczak M. [ed.] (2013), *Szermierka sportowa w świetle współczesnych badań naukowych*, Wydawnictwo AWF, Poznań [in Polish].
30. Olszewska G. (1975), *Psychologiczne aspekty efektywności treningu i walki sportowej* [in:] T. Ulatowski, *Geneza i działalność Problemu 105 w latach 1970-1974 (Efektywność treningu i walki sportowej oraz procesu odnowy)*, Part 2, pp. 190, 194.
31. Pawlak G. (1978), *Wyczynowe uprawianie szermierki a kształtowanie się postaw wobec sportu*, “Roczniki Naukowe AWF w Warszawie”, vol. 23, pp. 211-232.
32. Radzimirska-Graczyk M., Chalcarz W. (2004), *Ocena wiedzy żywieniowej uczniów uprawiających szermierkę w zakresie żywienia w sporcie*, “Medycyna Sportowa”, no. 5, pp. 243-246 (1 tab. bibliogr. item 17).
33. Radzimirska-Graczyk M., Chalcarz W. (2006), *Gospodarka mineralna w surowicy krwi dzieci i młodzieży uprawiających szermierkę*, “Bromatologia i Chemia Toksykologiczna”, vol. 39, Suppl., pp. 195-198.
34. Radzimirska-Graczyk M., Chalcarz W. (2009), *Wspomaganie żywieniowe wśród dzieci i młodzieży uprawiających szermierkę*, “Roczniki PZH”, vol. 60, no. 4, pp. 357-360.
35. Roi G.S., Bianchedi D. (2008), *The Science of Fencing. Implications for Performance and Injury Prevention*, “Sports Med.”, 38 (6), pp. 465-481.
36. Starzewski O.M. (1932), *O szermierstwie* [in:] *Ze wspomnień o Michale Starzewskim*, Kraków.
37. Sterkowicz-Przybycień K. (2007), *Zróżnicowanie budowy somatycznej czołowych zawodników uprawiających sporty walk*, doctoral dissertation, AWF, Kraków.
38. Szajna G., (2011). *Sporty walki na Podkarpaciu w latach 1945-1989*, Uniwersytet Rzeszowski, Rzeszów, pp. 471.
39. Tomczak M. (2010), *Psychospołeczne uwarunkowania rozwoju sportowego w okresie dorastania na przykładzie szermierki*, Seria: Monografie nr 392, Akademia Wychowania Fizycznego w Poznaniu, Poznań.
40. Tomczak M. (2012), *Kilka uwag na temat metodologicznego i statystycznego postępowania w przewidywaniu wyników sportowych zawodników na różnych etapach szkolenia* [in:] R. Strzelczyk, K. Karpowicz [eds.], *Etapizacja procesu szkolenia sportowego. Teoria i rzeczywistość*, Seria: Monografie nr 407, Wydawnictwo AWF, Poznań, pp. 179-191.
41. Topisz-Starzewska J., Mleczek E., Ryczek W. (2002), *Poziom rozwoju funkcjonalnego, somatycznego i motorycznego młodych szermierzy z Krakowa i determinanty ich osiągnięć sportowych* [in:] VI Międzynarodowy Kongres Naukowy Współczesny Sport Olimpijski i Sport dla Wszystkich, Warszawa 6-9.06.2002, „Wychowanie Fizyczne i Sport”, Supplement I, Part 1, pp. 136-137.
42. Wit A., Buczek M., Fidelus K., Kakietek S., Starosta W., Wolf J. (1987), *Doskonalenie procesu rozwoju cech fizycznych i techniki ruchu* [in:] Z. Krawczyk, A. Pac-Pomarnacki, R. Przewęda [eds.], *II Kongres Naukowy Kultury Fizycznej, Materiały i dokumenty*, GKKFiT, Komitet Badań Nauk o Kulturze Fizycznej, Warszawa, pp. 315, 336.
43. Wit B., Wit A., Krogulski A., Składanowska K., Składanowski Z. (1987), *Obciążenie treningowe lekcji szermierczej*, “Wychowanie Fizyczne i Sport”, no. 4, pp. 49-57.
44. Witkowski M., Wójcik M., Siatkowski I., Nowakowski A. (2011), *Performance matrix tests usage for diagnosing weak links of musculoskeletal system in fencers*, “Chirurgia Narządów Ruchu Ortopedia Polska”, vol. 76, no. 1, pp. 41-46.
45. Zabłocki W. (2011), *Szable świata*, BOSZ Bellona S.A., 35, Warsaw [in Polish].
46. Zawadzki W., Skiba R. (2009), *Adam Medyński fechtmistrz z Wrocławia. Kronika sekcji szermierczej AZS Wrocław 1948-2008*, Wrocław, pp. 9, 18, 20.
47. Dominik G. (2010), *Lekcja indywidualna w szermierce na szable* (unpublished MA thesis), AWF, Katowice.
48. Fajkis A. (2001), *Kształtowanie zdolności zbornościowych* (unpublished MA thesis), AWF, Katowice.
49. Górniak P. (1989), *Znaczenie wymiarów osobowości w treningu i walce szermierczej* (unpublished MA thesis), AWF, Katowice.
50. Górski M. (2011), *Wydolność anaerobowa szermierzy na przykładzie szablistów* (unpublished MA thesis), AWF, Katowice, pp. 61.
51. Hetman D. (2007), *Lekcja indywidualna w szermierce na szpady* (unpublished MA thesis), AWF, Katowice;
52. Jeź J. (2007), *Geneza powstania i wkład sekcji szermierczej AZS-AWF Katowice na rozwój szermierki w Polsce* (unpublished MA thesis), AWF, Katowice.
53. Kościucha M. (2006), *Analiza walk szermierczych w szabli kobiet z Mistrzostw Polski Seniorów – Kraków 2004 r.* (unpublished MA thesis), AWF, Warszawa.
54. Malerczyk A. (2007), *Pierwszy etap szkolenia w szermierce* (unpublished MA thesis), AWF, Katowice.
55. Marczak W. (2008), *Zbigniew Czajkowski – życie prywatne, działalność zawodnicza, trenerska i dydaktyczno-naukowa* (unpublished MA thesis), AWF, Katowice.
56. Pięguła T. (2003), *Znaczenie pomiaru czasu reakcji i koncentracji uwagi w postrzeganiu wzrokowym w ocenie poziomu sportowego szermierzy Konińskiego Klubu Szermierczego* (unpublished MA thesis), Poznań, pp. 53.
57. Rosińska-Szromek B. (2008), *Wybrane wskaźniki zdolności zbornościowych i wysiłkowych u chłopców w wieku 11 lat* (unpublished MA thesis), AWF, Katowice.
58. Rostek S. (2004), *Lekcja indywidualna w szermierce na szable* (unpublished MA thesis), AWF, Katowice.
59. Szewczyk J. (2002), *Wpływ podstawowego etapu szkolenia na poziom ogólnych zdolności zbornościowych* (unpublished MA thesis), AWF, Katowice.

60. Tomczak M. (2002), *Życie i działalność (sportowa i naukowa) Zbigniewa Czajkowskiego*, (unpublished MA thesis), AWF, Poznań, pp. 99.
61. Tylkowski S. (2002), *Działalność sekcji szermierczej AZS w Poznaniu w latach 1984-2001* (unpublished MA thesis), AWF, Poznań, pp. 110.
62. Walotek K. (2008), *Nawyki i odpowiedzi czuciowo-ruchowe – ich istota i znaczenie w walce oraz metody ich nauczania i kształtowania* (unpublished MA thesis), AWF, Katowice.
63. Wojciechowski P. (2003), *Dzieje szabli kobiet w Polsce* (unpublished MA thesis), AWF, Poznań, pp. 114.
64. Wrotny B. (2005), *Wybrane umiejętności techniczno-taktyczne i taktyczne w szermierce* (unpublished BA thesis), AWF, Katowice.
65. Wrotny B. (2007), *Metody i dobór ćwiczeń w lekcji zbiorowej* (unpublished MA thesis), AWF, Katowice.
66. Żurek A. (2005), *Motywacja i postrzeganie w trudnej sytuacji w walce szermierczej* (unpublished MA thesis), AWF, Katowice.

Przegląd wybranych polskich prac naukowych o szermierce sportowej

Słowa kluczowe: szermierka, trening sportowy, psychologia szermierki, antropomotoryka, historia

Abstrakt

Praca ma na celu wskazanie na dorobek naukowy i popularnonaukowy opublikowany przez polskich badaczy zajmujących się teorią i praktyką szermierki w XXI wieku. Ponadto autor prezentuje główne kierunki poszukiwań badawczych niektórych autorów. Zasadnicze ramy opracowania przypadają na lata 2000-2014. Do realizacji tematu wykorzystano metody badawcze obowiązujące w naukach historycznych: analizę dokumentów, metody indukcyjną i dedukcyjną oraz syntetyczną.

Autor podjął próbę odpowiedzi na następujące pytania badawcze: jaki jest aktualny stan badań nad sportem szermierczym w Polsce? Jaka tematyka badawcza dominuje w eksploracji badaczy zajmujących się różnymi dyscyplinami naukowymi? Praca została podzielona na podrozdziały. Wytyczone ich ramy stanowią zarazem okresy rozwojowe polskiej szermierki, w czasie zaborów, w niepodległej Polsce oraz w nowej rzeczywistości politycznej po II wojnie światowej, a także w XXI wieku. W podrozdziale Początki polskiej myśli teoretycznej do 1918 r. omówione zostały głównie prace prekursorów polskiej szermierki sportowej i bojowej, m.in. Michała F. Starzewskiego, Karola Bernolaka. W skrótoowo ujętej analizie pt. Próby teoretyczno-metodyczne w latach 1919-1939 zaprezentowane zostały ważne monografie Wiktorii J. Goryńskiej, Władysława Sobolewskiego i Włodzimierza Mańkowskiego i ich treść jak np. wskazówki do uprawiania szermierki dla zabawy lub zdrowia, podstawy metodyczne walki na szable metodą włoską itd. Kolejny podrozdział pt. Opracowania po II wojnie światowej (1945-2000) zawiera opis literatury opublikowanej przez badaczy prezentujących głównie nurt prac o charakterze metodyczno-technicznym. Wśród autorów na uwagę zasługuje dorobek teoretyczno-metodyczny Zbigniewa Czajkowskiego oraz sporadycznie opublikowane prace badawcze. Kolejny podrozdział pt. Okiem historyka zawiera omówienie monografii obejmujących zasięgiem głównie okres po II wojnie światowej oraz terytorium państwa polskiego i wybranych regionów naszego kraju.

W podrozdziale *Prace aplikacyjne* na uwagę zasługują prace z zakresu psychologii i antropomotoryki. Wymienione są też prace w formie maszynopisów i dysertacji.

Znaczna liczba artykułów i monografii ujrzała światło dzienne w XXI wieku. Ich liczba znacznie wzrosła w porównaniu z poprzednimi okresami. Zwiększył się też zakres tematyczny prac. Obejmował on zagadnienia teorii i metodyki treningu sportowego, psychologii, antropomotoryki i historii szermierki. Większość jednak prac monograficznych dotyczyła teorii i metodyki szermierki.