rhythm, and softness (Lešnik, 1999). Pursuance of all five elements shows results in the skiing technique in young developing competitors (Dolenec and Žvan, 2001). In the process of training, it is therefore necessary to plan how to improve not only the skiing technique but also general body fitness (Hintermeister et al, 1992). We can improve body fitness with different types of exercise that enable broad motor skills. One of the most effective training is gymnastics and its acrobatic elements (Krističević et al, 2010; Lešnik, 2009; Bandalo and Lešnik, 2011).

Gymnastics represents a fundamental sports genre, which influences motor development of every person (Bolkovič et al, 2002; Novak, Kovač and Čuk, 2008). It enables conscious control of body movement and position. The goal of gymnastic exercise is to acquire harmonious physical development and psychosocial capability (Bolkovič and Kristan, 2002). Gymnastic exercise affects strength development, coordination, flexibility, precision, balance and speed. To perform acrobatic elements it is necessary to activate specific muscles with specific intensity in accordance with time and space (Bolkovič et al, 2002). Acrobatic elements develop movement capability in space and body control in the phase without support (Bučar Pajek, et al, 2010).

Both alpine skiing and gymnastics are complex sports. The difference between them is that acrobatic elements are always performed in standard conditions whereas the conditions in alpine skiing are variable (Cigrovski, 2007). In alpine skiing, the benefits of learning body control through acrobatic elements are important especially in the phase without support (Bučar Pajek, 2003). In alpine skiing, the result often depends on body control, for example in jumps, quick extreme flexion of the body in technical disciplines where loss of stability can cause incorrect turn or even a fall. Conditions where we can learn acrobatic elements are stabile and when they are automatized, there is a positive transfer into complex skiing situations, where the skier can manage to control loss of stability in high-speed performance (Bosco, 1997; Čoh and Bračič, 2010; Lešnik, 1996).

Going through puberty can have a significant impact on athletic performance both in a positive and negative way (Mlakar, 2012; Pišot and Planinšec, 2005). While increases in body size, hormones, and muscle strength can improve athletic performance, there may be a temporary decline in balance skills and body control during the adolescence growth spurt. Quick increases in height and weight effect the body's centre of gravity (Pišot and Šimunič, 2006; Vogrinec, 2008). Sometimes, the brain has to adjust to this higher observation point, and a teen may seem a bit "clumsy." This phase is especially noticeable in sports, which require good balance and body control. Coaches and trainers that are aware of the adolescence growth spurt can help reduce athletic awkwardness by incorporating specific aspects of training into practices and training sessions (Živčić, 2007; Zajc, 1992).

At the age of 15 +- two years, adolescents increase their ability to develop the maximum degree of strength, speed and endurance, the physical abilities which are the main factors that influence sport performance (Pišot and Šimunič, 2006). But the preadolescent period is more unstable in terms of physical growth, coordination and movement control. Changes in uneven growth, especially of extremities, lead to a disharmonic development and can cause instability and discoordination of movement. It is therefore very important to perfect the technique of movement in this period (Berg and Eiken, 1999). To help the young racers overcome the adolescence phase they must first train their coordination and balance through different sports and in stable conditions, such as gymnastics (Lešnik, 2009). Neumayr et al. (2003) say that it is crucial for alpine ski racers to have a high level of aerobic power and muscle strength.

Gymnastic and acrobatic training should represent the component of physical preparation of older boys and girls in alpine

skiing in all-year training process (Škof, 2007). With boys at the age of 14, there is a maximum height growth of 8-10 centimetres per year. At this stage, gymnastics should be the main part of the physical preparation, because of its influence on coordination and mitigation of negative growth influence (Schmidtbleicher, 1984). On the other hand, at the girls' age of 14 the growth stops and learning coordination skills should improve their stability and coordinated movement (Mujanović et al, 2014).

The aim of our study was to determine whether the quality of implemented gymnastic elements correlates with competitive performance of boys and girls, age 14-15, in alpine skiing. Given the fact that the presented sample of measured participants is in a teenage period it is interesting to compare the influence of results according to gender. We were interested in how mastering the gymnastic elements affects the performance success in the category of older boys and girls in alpine skiing.

METHODS

Participants

The study included 22 boys and 12 girls, born in 1997 and 1998. They were all active alpine ski racers included in a regular training process in a ski club. They were all without injuries or morphological defects. All the participants trained 6 times a week for 2-3 hours. During the ski season, they had skiing practice 4 times a week and two sessions of gym training. In the off season they trained general endurance, strength, coordination, balance and agility 6 times a week. Part of the trainings was also gymnastics. On average boys and girls trained 8 ± 1 year. They had 14 races per season.

Instruments

We used nine tests of gymnastic elements that most closely coincide with general knowledge of gymnastics and are an indicator of mastering gymnastics. Participants' performance was evaluated for each element on a scale from 0 to 5, 0 being the lowest grade, meaning: did not carry out the element, 1 meaning: tried, but did not succeed, 2 meaning: with a major fault, 3 indicating: performed inadequate, 4 meaning: successful with a minor fault or with difficulties, 5 being the highest grade, meaning: carried out the element correctly in full movement and without difficulties.

The sample of variables included the individual ratings of gymnastic elements, their overall score and the competitive performance based on the ranking and points in the "Velika nagrada Mercator" national cup in the 2012/13 racing season (hereinafter the Cup).

1. STR – straddle vault
2. RFOR – forward roll
3. RBAC – backward roll
4. HS-RFOR – handstands to forward roll
5. CART – cartwheel
6. ROUND – roundoff
7. TRN – back hip circle on uneven bars
8. SQU – squat vault
9. GYM – overall score of gymnastic elements
10. POINTS CUP – points of national cup

Straddle vault is a gymnastic vault in which the body passes over the apparatus in a sitting position with the legs spread wide to each side. Forward roll is a gymnastic movement in which the body is turned heels over head with the back of the neck resting on the ground. Backward roll is a gymnastic roll that is performed with the feet going first and the rest of the body and the head following. Handstand to forward roll is an intermediate gymnastic element in which you do a handstand and then roll forward. Cartwheel is a sideways rotary movement of the body and is performed by bringing the hands to the floor one at a time while the body inverts. The legs travel over the body trunk while one or both hands are on the floor, and then the feet return to the floor one at a time, ending with the performer standing upright. A roundoff is a move in gymnastics similar to a cartwheel, except the gymnast lands with two feet placed

together on the ground instead of one foot at a time, facing the direction of arrival. Back hip circle is a gymnastic element where, to perform the skill, the gymnast rests on the bar in a front support. He casts away, returns to the bar and travels around it, returning to a front support. Squat vault: a gymnastic vault in which the body is supported on both hands, the knees are flexed and drawn up toward the chest, and the legs pass between the arms as the body passes over the apparatus.

Procedure

Measurements of locomotor states variables were carried out at the Faculty of Sport in November 2012. Autumn measurements represent the ideal physical condition before the start of the competition period. Measurements of body controlled movements were held in the gymnastics hall under the supervision of two gymnastic professors, who are both official arbiters and judges with all qualifications. We asked two judges to cooperate to ensure objectivity of grading. Each respondent was recorded with a video camera while performing gymnastic elements. Both professors evaluated the skiers' performance on a scale of 0 to 5.

The criterion variable is the sum of points, reached in the Cup. We summed the best three results of slalom, giant slalom and super-G. Ski Association of Slovenia determines athletes' prosperity in the national cup using the following scoring system: 1st place 150 points, 2nd place 135 points, 3rd place 120 points, 4th place 108 points, 5th place 96 points, etc.

The data was processed with SPSS – Statistical Package for Social Sciences. We calculated the basic statistical parameters. We used the Spearman correlation coefficient at 1% and 5% risk to establish the correlation results between acrobatic skills and competitive performance. We also used Mann – Whitney U-test separately for boys and girls. We divided both boys and girls into two groups – in the first group were skiers who ranked 1-10 and in the second group were skiers who ranked 11-22 in the National cup.

RESULTS

Table 1

Spearman's rho between gymnastic elements and Mercator cup points in older boys.

	STR	SQU	RFOR	RBAC	HS-RFOR	CART	ROUND	TRN	POINTS CUP
STR	1	.553**	0.395	0.351	0.348	0.42	0.412	0.261	.483*
SQU	.553**	1	0.422	.572**	0.238	.652**	0.358	0.298	0.365
RFOR	0.395	0.422	1	.835**	.526*	.521*	.757**	0.16	0.382
RBAC	0.351	.572**	.835**	1	.572**	.683**	.785**	0.119	.451*
HS-RFOR	0.348	0.238	.526*	.572**	1	.601**	.722**	0.409	.642**
CART	0.42	.652**	.521*	.683**	.601**	1	.695**	0.371	0.302
ROUND	0.412	0.358	.757**	.785**	.722**	.695**	1	0.342	.429*
TRN	0.261	0.298	0.16	0.119	0.409	0.371	0.342	1	.607**
POINTS CUP	.483*	0.365	0.382	.451*	.642**	0.302	.429*	.607**	1

** statistically significant correlation at a 0.01 risk level; * statistically significant correlation at a 0.05 risk level; STR – straddle vault, RFOR – forward roll, RBAC – backward roll, HS-RFOR – handstand to forward roll, CART – cartwheel, ROUND – roundoff, TRN – back hip circle on uneven bars, SQU – squat vault, GYM – overall score of gymnastic elements, POINTS CUP – points in national cup

In Table 1 we can see, that there is a positive correlation between all of the gymnastic elements and Cup points. The most statistically significant correlation was in handstand to forward roll (HS-RFOR) and back hip circle on lower bar on uneven bars (TRN). Statistically significant were also straddle vault (STR), backward roll (RBAC) and round off (ROUND). There was no statistically significant correlation in squat vault (SQU), forward roll (RFOR) and cartwheel (CART).

We calculated the Spearman correlation coefficient, with the help of which we wanted to determine whether and to what extent the individual elements correlate with the points scored in the Cup and we were also interested in the correlation of individual elements among themselves. It turns out that many elements correlate, among which the correlation between forward roll (RFOR) and backward roll (RBAC) stands out, with a 0,835** coefficient at 1% risk indicating a statistically highly significant correlation. Also a statistically highly significant correlation at 1% risk proved to be the connection between cartwheel at 90° backward (CART) and forward roll (RFOR) and between backward roll (RBAC) and handstand to forward roll (HS-RFOR).

In determining the correlation between individual elements to the points in the Cup, the results showed that the highest correlation to the Cup points is between headstand to forward roll (HS-RFOR) at .642**, followed by back hip circle with the correlation coefficient of .607**, both at a risk level of 1%, which puts them in the area of essential statistically significant associations. The skiers ranking higher in the Cup also achieved a higher score in the aforementioned elements.

Apart results shown in Table 1, we have calculated a correlation between the overall assessment of gymnastic elements (GYM) and points in the Cup. The results showed that there is also an essential statistically significant correlation with the correlation coefficient of .615** at the risk level of 1%. So we can conclude that the skiers who ranked higher in the Cup also received a higher overall score of gymnastic elements (Table 3).

As seen in Table 2, there is no statistically significant correlation between gymnastic elements and cup points in girls category. We can see an even negative correlation in straddle vault (STR), squat vault (SQU), forward roll (RFOR) and handstand to forward roll (HS-RFOR). There is a positive correlation in backward roll (RBAC), cartwheel (CART), round off (ROUND) and back hip circle (TRN).

When calculating the Spearman's correlation coefficient between the variables, we established that there is a correlation between the execution of the individual elements (Table 2). The strongest correlation is between handstand to forward roll (HS-RFOR) and straddle vault (STR) with the coefficient of .751**, followed by round off (ROUND) and backward roll (RBAC) with a coefficient of .731**, which puts them in the area of statistically highly significant correlations at 1% risk. When determining the correlation between individual elements and the points achieved in the Cup, it can be seen that only the backward roll (RBAC) and round off (ROUND) have a weak correlation to the points in the Cup, wherein the connection is statistically not significant. The correlation of other elements to the points in the Cup is insignificant and in some cases even negative. Calculating the relationship between the points scored in the Cup (POINTS CUP) and the overall score of gymnastic elements (GYM) did also not indicate any correlation between these variables.

Table 2
Spearman's rho between gymnastic elements and Mercator cup points in older girls.

	STR	SQU	RFOR	RBAC	HS-RFOR	CART	ROUND	TRN	POINTS CUP
STR	1	0.505	0.136	0.102	.751**	0.049	0.373	0.494	-0.059
SQU	0.505	1	0.118	-0.203	0.318	-0.112	-0.29	0.169	-0.307
RFOR	0.136	0.118	1	0.402	0.282	0.333	0.063	0.471	-0.231
RBAC	0.102	-0.203	0.402	1	0.429	.583*	.731**	0.493	0.393
HS-RFOR	.751**	0.318	0.282	0.429	1	.591*	.618*	.696*	-0.157
CART	0.049	-0.112	0.333	.583*	.591*	1	0.47	.676*	0.134
ROUND	0.373	-0.29	0.063	.731**	.618*	0.47	1	0.306	0.307
TRN	0.494	0.169	0.471	0.493	.696*	.676*	0.306	1	0.107
POINTS CUP	-0.059	-0.307	-0.231	0.393	-0.157	0.134	0.307	0.107	1

** statistically significant correlation at a 0.01 risk level; * statistically significant correlation at a 0.05 risk level; STR – straddle vault, RFOR – forward roll, RBAC – backward roll, HS-RFOR – handstand to forward roll, CART – cartwheel, ROUND – roundoff, TRN – back hip circle on uneven bars, SQU – squat vault, GYM – overall score of gymnastic elements, POINTS CUP – points in national cup

Table 3
Spearman's rho correlation between the rating in the Cup and the overall score of gymnastic elements in older boys and girls.

		GYMNASTIC ELEMENTS	POINTS CUP
BOYS	GYMNASTIC ELEMENTS	1	.615**
	POINTS CUP	.615**	1
GIRLS	GYMNASTIC ELEMENTS	1	-0.151
	POINTS CUP	-0.151	1

** statistically significant correlation at a 0.01 risk level; * statistically significant correlation at a 0.05 risk level

Table 3 shows us, there is a statistically significant correlation between overall points of gymnastic elements and Cup points in older boys. There is negative correlation in the group of girls.

Table 4
The results of Mann-Whitney U-test of points scored in the Mercator Cup, gymnastic element variables and the total score of gymnastic elements in older boys.

	MANN-WHITNEY U TEST	EXACT SIG (2-TAILED)	RANK	MEAN RANK	SUM OF RANKS
STR	39	0.122	1	13.6	136
			2	9.75	117
SQU	45.5	0.345	1	12.95	129.5
			2	10.29	123.5
RFOR	36.5	0.099	1	13.85	138.5
			2	9.54	114.5
RBAC	38	0.145	1	13.7	137
			2	9.67	116
HS-RFOR	18	0.002**	1	15.7	157
			2	8	96
CART	43.5	0.254	1	13.15	131.5
			2	10.12	121.5
ROUND	32	0.061	1	14.3	143
			2	9.17	110
TRN	18	0.002**	1	15.7	157
			2	8	96
GYM	23	0.013*	1	15.2	152
			2	8.42	101
POINTS CUP	0	0	1	17.5	175
			2	6.5	78

** statistically significant difference at a 0.01 risk level; * statistically significant correlation at a 0.05 risk level; STR – straddle vault, RFOR – forward roll, RBAC – backward roll, HS-RFOR – handstand to forward roll, CART – cartwheel, ROUND – roundoff, TRN – back hip circle on uneven bars, SQU – squat vault, GYM – overall score of gymnastic elements, POINTS CUP – points in national cup

Table 4 shows that the influence of gymnastic elements scores (GYM) on performance success at competitions (POINTS CUP) is statistically significant in older boys at a 5% risk level (sig=0,013). The first group represents boys, who ranked places 1-10 in the Mercator Cup competition, the second group represents boys who ranked 11-22. The results show that boys from the first group had better values in handstand with forward roll (HS-RFOR), back hip circle (TRN) and overall points of gymnastic elements (GYM). On the other hand, in all others gymnastic elements measured, there is no statistical significance between groups. The calculated results confirm, that the gymnastic variables which are more difficult to perform (HS-RFOR, TRN) are correlated with the criterion variable more than others.

Table 5
Results of Mann-Whitney U-test of points scored in the Mercator Cup, gymnastic element variables and total score of gymnastic elements in older girls

	MANN-WHITNEY U TEST	EXACT SIG (2-TAILED)	RANK	MEAN RANK	SUM OF RANKS
STR	17	1	1	6.67	40
			2	6.33	38
SQU	14	0.697	1	5.83	35
			2	7.17	43
RFOR	16.5	1	1	6.25	37.5
			2	6.75	40.5
RBAC	5	0.048*	1	8.67	52
			2	4.33	26
HS-RFOR	18	1	1	6.5	39
			2	6.5	39
CART	15.5	0.864	1	6.92	41.5
			2	6.08	36.5
ROUND	9	0.156	1	8	48
			2	5	30
TRN	13.5	0.598	1	7.25	43.5
			2	5.75	34.5
GYM	16	0.788	1	6.83	41
			2	6.17	37
POINTS CUP	0	0.002	1	9.5	57
			2	3.5	21

* statistically significant difference at a 0.05 risk level; STR – straddle vault, RFOR – forward roll, RBAC – backward roll, HS-RFOR – handstand to forward roll, CART – cartwheel, ROUND – roundoff, TRN – back hip circle on uneven bars, SQU – squat vault, GYM – overall score of gymnastic elements, POINTS CUP – points in national cup

Table 5 shows that overall gymnastic elements (GYM) do not influence total performance (POINTS CUP) in the older girls category. We divided girls into two groups, in the first group there were girls who ranked 1-6 in the Mercator Cup competition and in the second group there were girls ranked 7-12. The results indicate a significant difference only in backward roll (RBAC) at the 5% risk level (sig=0,048). There is no statistical significance from the first group of girls in any other gymnastic element.

DISCUSSION

This article explains how body control, physical endurance, strength and coordination influence the racing results of older boys and girls in alpine skiing. We found statistically important differences, at

under 1% risk level with boys, whereas there was no statistically important difference among girls.

Adolescents have coordination problems due to their growth, therefore it is necessary to train specific skills that will help young athletes overcome their loss of physical ability during adolescence and acquire even grater abilities of strength, coordination, and balance along with their skiing technique when they pass the adolescence phase.

Lešnik et al. (2015) researched how performing acrobatic elements impacts alpine skiers age 12 and 13. The results they acquired were similar to those of our study, except theirs were in favour of girls. There was a statistically important difference in positive correlation between acrobatic elements and success in the National cup skiing competition. There was no statistically important difference in the group of younger boys. If we compare both researches, we can define how much impact adolescence has on strength, balance, speed, coordination and after all on sports performance of young athletes. Girls are usually two years ahead of boys in adolescent development, which is the exact confirmation of why girls were more successful at a younger age (12-13) than boys (14-15). There are no differences in the development of ordinary boys' and girls' physical abilities until they reach puberty. Because of girls' earlier entry into adolescence, a change in the progress of motor development and their physical abilities is to be expected. Secondary signs of adolescence affect the awareness of body scheme, which is the reason why physical abilities are not developing at the same rate as the growth process proceeds (Glinšek, 2013).

Motor, physical, cognitive, emotional and social development is a comprehensive process, which takes place simultaneously with the physical growth, maturation of the functions in the social environment. They interact with heredity, the environment and child's own activity (Videmšek and Pišot, 2007). Genetics holds the biggest influence on the physical development, but despite the fact that genetic factors determine the growth limits, environmental factors and the factor of own activity play an important role in the extent to which these limits are then reached. The most important environmental factors affecting physical growth are nutrition, physical activity, injury, delay by development disease and climatic conditions (Videmšek and Pišot, 2007). As a rule, early maturation brings benefits in sports to both girls and boys. This advantage is usually expressed in competitions, where early maturing children achieve more visible results simply because they have developed a variety of skills, such as strength, speed, tenacity and psychological maturity at a very early age, enabling them superiority over children who are still developing. In some cases, early maturation and the associated rapid physical growth also brings disadvantages, which are mainly related to the reduction of equilibrium and coordination skills (Lešnik and Žvan, 2014).

Competitive alpine skiing is a complex sport discipline, where the conditions in which the athlete competes are constantly changing. It is the changing conditions in conjunction with high-speed movement or sliding and the pressure of large forces that generate the environment in which injuries are an integral part of both trainings and competitions for professional skiers. It is impossible to completely annihilate the possibility of injuries in alpine skiing, but we can try to reduce the risk limit to the individual's minimum value with adequate physical preparation (Lešnik and Žvan, 2013). We often hear about young talents winning in the lower age categories, but when or if they reach the older categories, they do so without success. It is therefore essential that we use the appropriate means and methods in different age periods to influence the individual's bio-psycho-social status to such an extent, that it will facilitate a successful transition into membership

categories. At all stages of the training process it is important to use weaker methods before resorting to stronger ones, which will gradually build the motor basis for potentially outstanding achievements in the future (Mujanović et al, 2014).

One of such methods of physical preparation of young alpine skiers is gymnastics or acrobatics. Gymnastics i.e. acrobatics can influence many motor skills in different age groups, among which coordination of movement, various forms of body strength, balance and flexibility stand out. Successful implementation of individual acrobatic elements requires precise muscle activity of a certain intensity at a specific time and place. Acrobatic elements also fully develop the ability to move in space and master the body in the without support phase (Bolkovič and Kristan, 2002).

Based on this, it seems reasonable to incorporate i.e. insist on acrobatics program when designing fitness programs for alpine skiers. Children in the age period of 14-15 years fall into the category of older boys and girls. Particularly in boys, this age period coincides with the period of accelerated body growth, which may in many of them disrupt coordination and sense of body position, namely body segments. By practicing acrobatics the negative effects of accelerated growth may be mitigated. On the other hand, growth slows in girls at this age, allowing the effects of gymnastics or acrobatics on the development of movement coordination and body awareness in space to increase even further. According to the obtained results, coaches' aim could be not only to learn and improve gymnastic elements, which were the subject of the thesis, but also to implement derivatives of certain elements, which would then lead to a generalization of the learned. Therefore, it may seem reasonable to emphasize learning and perfecting a variety of acrobatic elements which are implemented on different planes of movement, or elements, which are a combination of more individual elements. This is where, in fact, the subjects had more problems or received poorer scores.

The obtained results indicate that the correlation between the control of gymnastic elements and performance success is statistically significant in older boys categories. We cannot confirm statistical significance with older girls, but that does not mean that mastering gymnastic elements is not necessary for their overall physical ability to perform in ski racing. In the overflow of attractive modern ski disciplines competitive alpine skiing will become even more dangerous. The skiing speed is constantly growing (Lešnik and Žvan, 2010) and therefore presents more possibilities for falls and more serious injuries. Mastering acrobatic elements will therefore become even more important for skiers in terms of better body control in solving complex motor tasks while skiing, as well as in the case of falls, when the movement of the skier can be controlled (Kostelić, 2005). In the future, it will be necessary for the acrobatics training to move even closer to the contemporary ski movement trends. The training of "ski acrobatics" should be implemented in the training process and the training conditions should resemble the ski sliding conditions.

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LANGUAGE IN ARTISTIC GYMNASTICS: NOTES ABOUT "GYMISH"

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Original article

Abstract

This article aims to present and discuss the lexicon of Artistic Gymnastics through a case study conducted at a gymnasium for high performance Women's Artistic Gymnastics. As such, we have carried out an analysis of the communication between the protagonists of the study, gymnasts and coaches, with the objective of exemplifying how this lexicon has formed into a part of the sport's cultural heritage. The data indicates that words and expressions specific to Artistic Gymnastics exhibit historical and cultural traits and, in some cases, transcend the limits of this sport when incorporated into society.

Keywords: *Lexicon, communication, sports culture, gymnastics.*

INTRODUCTION

It was back in 2003 at the World Championships in Anaheim, in the United States of America, that a salto with a 180° rotation along the longitudinal axis followed by a double salto forward in the pike position was presented in Women's Artistic Gymnastics (WAG) competition for the first time by the Brazilian gymnast Daiane dos Santos during a floor exercise routine. This new acrobatic element, Arabian double pike, contributed to an unprecendented gold medal in world competition for Brazil, and was subsequently included in the Code of Points (CoP).

The unprecedented nature of the world title contributed to Brazilian society learning about the "Dos Santos I", the name by which this acrobatic element is known within Artistic Gymnastics (AG). With its dissemination, the expression *Arabian double pike* advanced beyond the milieu of gymnastics and is used today by the population in distinct contexts, from television commercials to political news stories, as can be observed in the following examples:

- Burst mode [on the camera] is also great for capturing an entire sequence. Go ahead and record your friend's "Arabian double pike" from beginning to end. Later, tell the story with your fotos (Apple, 2013).
- In a matter of seconds, she [Luana Piovanni[1]] did an Arabian double pike and changed the subject (Cordioli, 2013).

[1] Luana Piovanni is a Brazilian famous actress.

- (...) but stating that the company should not make any move towards receiving the newer generations is a backwards Arabian double pike (Galisteu, 2013).
- If that happens, [Miguel] Arraes[2] will give an Arabian double pike in his casket (Palazzo-Martini, 2013).

It is evident that the expression cited became a metaphor for doing something extremely difficult or unprecedented and is being used in many different situations. This fact corroborates Saporta (1990) who states that language promotes the interaction between sports and other contexts, like the political and the social. Indeed, the author mentions that these phenomema influence and reflect upon each other.

The extrapolation of sports language to other contexts is certainly influenced in large part by the mass media. Authors such as Lipónski (2009) state that sports media are increasingly popular and that sports occupy a high percentage of TV and radio time. Consequently, it exerts a strong influence on listeners and spectators. Internet access has also contributed sharply to the dissemination of information surrounding sports phenomena and AG (Bortoleto, Ferreira, & Rodrigues 2011). According to Oliveira (2010), names like Jade Barbosa, Daiane dos Santos, and the Hypólito siblings (Daniele and Diego) are nationally recognized and circulate through different vehicles of communication with certain regularity. Recently, Arthur Zanetti, 2012 Olympic champion on the rings apparatus, should also be added to this list.

Due to this increased media presence and the resulting popularity of AG, Brazilians are increasingly able to recognize the meaning of *handstand* or the aforementioned *Arabian double pike*, something infeasible a short while ago (Lopes, 2009). In this way, it appears that the language specific to AG has begun to extrapolate the sporting context and reached the society in general.

In fact, language is an inherent part of social life and, according to Delaney and Madigan (2009), it is one of the most important symbols for the modern society. Kowalikowa (2009) states that language permits the establishment of interpersonal communication through cognitive processes that make it possible to express feelings, emotions and sensations. The author highlights that, "there are no human activities which can dispense with language" (Kowalikowa, 2009, p. 63). It can be written or oral and take on non-verbal forms like Morse code, sign language, and conventional signaling systems. In this way, AG has also developed its own codes to afford greater efficiency in the communication between its specialists.

Sapir (1949) draws attention to the fact that language has become a fundamental element for the study of culture, as it is capable of revealing unique aspects of a determined group. According to Ullman (1991, p. 122), "it should be considered as something part of human beings, something inherent. Language emerged with man, and man emerged with language".

Despite being an inherent and distinctive characteristic of human beings, language does not constitute an instinctive and biological mecanism. Marconi and Presotto (2010) describe the learning process necessary to embody language and consequently the culture in which the individual is inserted.

As previously cited, just as with a majority of sports, AG has its own vocabulary, which we call *Gymish*. It can sound like a foreign language to those who are not used to hearing it (Gutman, 1996). This specific lexicon embraces elements that are important within the context of this sport and make it possible to name things, describe events, and express the feelings, values and norms that are specific to it. We believe that when hearing the expression *Arabian double pike* for the first time, individuals who do not belong to the context of AG must experience the sensation that they are hearing a different language or, rather, that they do not understand the meaning of the codes.

[2] Fomer Brazilian politician.

Delaney and Madigan (2009) explain that groups belonging to subcultures modify the language in order to meet their own needs. The authors continue, stating that, "this is especially true in the world of sports, as all sports utilize language in a symbolic manner relevant to their domain" (Delaney & Madigan, 2009, p. 74). These changes emerge from the elements, terms, and expressions that were developed and established by the practicioners, coaches, fans, and sometimes by the media.

In fact, as Lipónski (2009) highlights, sports give rise to numerous amounts of jargon which can be linked to coaching, to terminology for training methods, to the language of sports science, to sports medicine, and to the slang terms of athletes and fans. Kowalikowa (1997) adds that language in sports also owes its peculiarity to factors like sporting goods, accessories, and the types of relationships that exist between participants.

These aspects make the language of sports a component that is distinct from other forms of language, since according to Kowalikowa (2009, p. 63), "each human activity affects its linguistic expression in terms of vocabulary, phonology, syntax and phraseology" whose features, as stated by Sedlaczek (2009, p. 121), "are visible mainly on the lexical level: names of disciplines, activities, equipment, places, etc.". It's important to highlight that the specialized language, as Kocourek (1991) points out, are subcategories of broader language. And they are used by a group that shares the same interests. In this direction, Sager, Dungworth and MacDonald (1980, p. 74) say that these specialized language "are semi-autonomous, complex, semiotic systems based on and derived from general language".

Starting from the assumptions presented earlier, this article seeks to identify and discuss the lexicon unique to AG and, more specifically, to WAG. This will allow us to enlarge our knowledge of sports phenomena as well as facilitate the communication between all of these involved in this sport, whether they are gymnasts, coaches, scholars, or even those who appreciate AG.

METHODS

We have opted for a case study approach in the development of this research. Yin (2009) states that this research method is used in different fields and situations with the intention of contributing to the knowledge of individuals, groups, and social and political organizations. Furthermore, according to the author, the method allows for the investigator's holistic viewpoint on the events of daily life, such as life cycles, the behavior of small groups, organizational and management processes, school performance, and international relations, among others.

Merriam (1998) states that a case study that has its focus on cultural aspects can be labeled as an ethnographic case study. This investigation method utilizes techniques traditionally attributed to ethnographic research (observation, interview, document analysis) to provide a deep description of a unit aiming to understand its idiosyncrasies, but without losing the characteristics of a case study (André, 1995).

Bogdan and Biklen (1994) portray the ethnographic case study as an observational approach in which the focus of the research is centered on a specific organization or on some other unique aspect of this organization. This type of study aims for discovery and allows new elements to emerge throughout the development of the research, a fact which demands that the search for new inquiry and answers always occurs in consideration of the context in which the phenomenon is situated.

In order for the reseach to meet its established objectives, we have used three data collection techniques: bibliographic and documental research, participant observation, and informal interview. The period of observation prioritized the preparation for the 2012 London Olympics in the months of March, April, May and June. After this major sporting event had ended, the observations resumed in

September with a total of 16 visits and 85 hours.

The gymnasium selected for this study was a training site for WAG team which had athletes that competed in the state and Brazilian championships during the 2009-2012 Olympic cycle in four different categories: pre-infant (9-10 years), infant (11-12 years), juvenile (13-15 years) and adult (16 years and older)[3].

When we contemplate the sporting career of the gymnasts included in this microculture, we find athletes that had competed in World Cups, Panamerican Games, South American Games, World Championships and Olympic Games.

The focus of this research was restricted to the training squads that aimed the high performance gymnastics, which trained from Monday to Saturday. The gymnasts from the pre-infant (n = 1) and infant (n = 9) categories trained for 30 hours a week. The juvenile (n = 3) and adult (n = 6) gymnasts, in addition to the activities carried out in the gym, had weight training in a different location. Furthermore, some athletes had physical therapy, in order to prevent and recover from injuries.

The coaching staff observed consisted of three renowned professionals with both national and international experience in the sport. Upon analysis of the coaches' resumés, participation in the following competitions could be observed: State Championships, Brazilian Championships, South American Games, World Cups, and Olympic Games.

The study was approved by the Committee for Ethics in Research of the School of Physical Education and Sport at the University of São Paulo (Report number: 225.814).

RESULTS

Oral language

Sports, as a sociocultural phenomenon, combine communication processes that are accomplished by way of language (Sedlaczek, 2009). It is possible to observe the existence of language variation in the sporting context since ancient times. According to Lipónski (2009), the names of sports equipment, as well as their descriptions and reflections about them, have been preserved in texts from different periods in history, such as the Classical Era.

Over the years, the study of language has collaborated with the understading of sports and sporting behavior, principly because it has facilitated understading between interlocutors, as well as outside observers (Blanchard, 1995).

Kowalikowa (2009) states that in the daily sporting routine there is a gamut of interactions that are influenced by the roles that the interlocutors play (athletes, coaches, judges, spectators, medical team, managers, among others). According to the author, the interlocutors develop a discourse that frequently reveals specific patterns and can generate a unique lexicon, which in AG can be known as *Gymish*.

Upon analysing the daily routine of a high performance WAG gymnasium, we have observed that some of the specific patterns cited by Kowalikowa (2009) have emerged in the nomenclature of the apparatus and equipment used during training. However, others are synthetic terms employed to substitute the complex description of the gymnastics elements stipulated by the Code of Points (CoP).

We know that floor, balance beam, vaulting table, and uneven bars are the names attributed to each specific apparatus in WAG. Furthermore, we can also add some auxiliary equipment used in the day-to-day activities of gymnastics to this list (Nunomura et al., 2009). Examples of such equipment are bar straps, parallettes, floor bar, roller wheel, vault box, tumble track, among others. These examples provide evidence for the kind of nomenclature explained by Kowalikowa (2009) and establish a pattern, which is specific to this sport.

In general, the nomenclature of the apparatus can be considered closer to the

[3] Categories stablished by Brazilian Gymnastics Confederation.

public when it is associated with the language of sports, or rather, when it transcends the gymnastics milieu. Authors such as Bergh and Ohlander (2012) clarify that the delimitations between languages, the language of sports and language specific to a particular sport are porous. They cite Tingbjörn (2003) who highlights other levels in the divisions of sports language, since we can identify the common language among sports played on courts or in team sports. Moreover, we could also add the common language of gymnastics. In Figures 1 and 2 that follow, we can observe these questions.

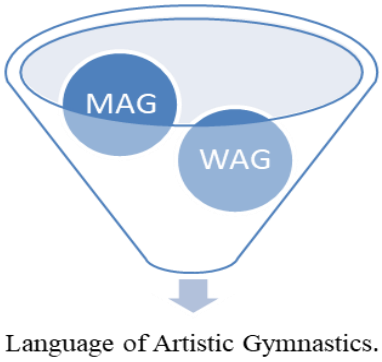

Figure 1. Language of AG.

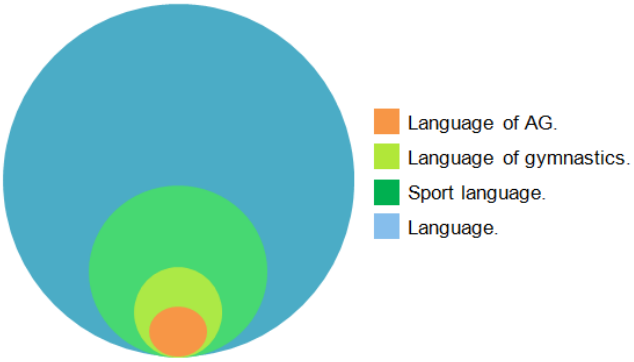

Figure 2. The language of AG as a componente of the language. Adapted from Bergh and Ohlander (2012).

In some situations observed during the field research, we determined that the use of words belonging to the lexicon of Portuguese also exercised a specific semantic function that could pose difficulties for individuals who are not part of the context of this sport, as can be verified below. It is important to highlight that we opted for the literal translation from Portuguese to English, and in parentheses the meaning in *Gymish*.

Se você não marcar a parada não irá valer. / If you don't hold your stop (handstand), it won't count!

(Você) está fazendo a chamada de lado. / You're doing the call (hurdle) to the side.

Pode ir pro caninho. / You can go to the little pipe (bar straps).

Vai pra cravar o salto. / Go to stick (stoping landing) the vault.

Abraça o cavalo. / Hug the horse (the horse as apparatus).

Pensa na posição da canoinha. / Think about the little canoe position (hollow position).

Salta mais depois que levanta da vela. Quero ver você fazendo força nessa perna! /
Jump more after getting up from the candle (candlestick position). I want to see you pushing with this leg!

The preceeding quotes were taken from our field observation notes (FN). In the first sentence, the expression *marcar a parada* (literally: hold your stop) means to execute the handstand element (inverted support) and maintain the static position for at least two seconds. If this requirement is not met, the judge will not consider the value of the element when calculating the difficulty score. For this reason, the coach says, "It won't count."

In the second phrase, the word *chamada* (literally: call) represents the hurdle movement made up of an action, which is executed before a pre-acrobatic or acrobatic element. In the following phase, a *caninho* (literally: little pipe) is a resource used for practicing certain elements on the uneven bars. It is made from a piece of PVC pipe and fabric straps, which are wrapped around the bar and also around the wrists of the gymnast (see FIGURE 3). This mechanism allows the gymnast to hold on to the bar and practice the elements with increased safety and decreased strain on the hands.

Figure 3. Details of the straps and the PVC pipe "*caninho"* around the bar. Source: Gibson (2016).

The word *cravar* (literally: to stick) is used continually in AG and means to carry out a landing or dismount with control and without any additional steps or wobbles. In other words, it means to land with the feet *sticked* in the floor/mat. *Cavalo* (literally: horse), the next term on the list, alludes to the apparatus used in AG, which got this name due to its origin during the Roman Empire, when it was used for training soldiers in the cavalry. During that period this piece of equipment had the same physical characterstics as the animal, but with time they were excluded as the uses of this apparatus for motor development progressed (Oliveira & Bortoleto, 2011). Finally, *canoinha* (literally: little canoe) and *vela* (literally: candle) are basic body positions used in AG which are commonly used in physical training exercises.

We could also add other expressions that were repeated throughout the training, such as point your toes, tighten your bottom, kick up your heels, strong cast, be stiff, you're throwing your head, wait to release, leave your feet on the bar longer, look at your hands, open your legs more, shoulders down, among others. We have noticed a great deal of similarity between these expressions and those explained by Bortoleto (2004, p. 270) in the study of men's artistic gymnastics (MAG), "tighten your bottom, point your toes, lift your head, push your hands, suck in your gut, fly more, hold your hollow position".

Kowalikowa (2009) asserts that the variety in terminology and semantic specificity are present in sport discourse as a whole. The author adds further examples

from sports such as football, baseball, and weight lifting.

Even though a large part of the vocabulary of the athletes and coaches belong to the lexicon of the Portuguese language, many key words are specific to the AG universe. Upon analysis of the communication between gymnasts and coaches in the study, we noticed that the interlocutors frequently resort to this specific language and, for those who do not belong to the context of this sport, understanding is compromised, as it is almost like a foreign language. We were able to verify this in the accounts taken from the field notes:

You are not doing the **snap down** when you go for the **Arabian double**.

The **Jäger** was better.

Go do the **Tkachev.**

You can warm up for your vault. Don't waste any time on the **Yurchenko.**

That's a good **free hip circle**! Be careful not to go too far!

If you do the **Tsukahara** like this, it's going to be considered as a pike.

You are throwing your head when you do the **flic**.

Open your legs more on the **swich leap**!

Did you do the **Stalder**?

The language distinction between AG and the other sports occurs mostly at the lexical level, since AG has its own ample vocabulary. This fact collaborates with the distinction and cultural identity of the sport (Lipoński, 2009).

Biderman (2001) confirms that the lexicon is related to the process of naming and with the comprehension/perception of reality, in addition to constituting a form of register. In the case of the accounts cited previously, we observed that these were made up of words and expressions that were understandable to those who were inserted into the context of AG and favor/facilitate the communication process. The unique language of the CoP inspired many of these terms, however, others were coined and consolidated from inside the gymnasiums.

Another example, from those listed before, exposes the particularities of Brazilian AG. In Brazil, we use the word *twist* in a different way compared to English-speaking countries. Instead of representing a rotation on the transversal axis with a longitudinal spin, the *twist* in Brazil consists of a salto with 180° on the longitudinal axis followed by a forward rotation on the transversal axis. The Brasilian *twist* represents the element known as the *Arabian* in English-speaking countries.

The example cited above exposes, as well, the internationalism that, according to Kowalikowa (2009), is present in language of sports. The author relates the great influence of English on different sports. One of the most frequently used words in the gymnasium context is from English: *flic-flac*. In addition to *flic-flack*, we observed along the research the use of the term *layout (step out)* which is a back salto where the landing occurs with one foot at the time. Moreover, we were able to point out the influence of French language in WAG, mainly, in leaps, hops, jumps and dance elements whose origins are in ballet:

The coach observes and asks the gymnast to correct the wolf jump sequence and the ***sissone*** on the beam.

On the floor, the children practiced doing a ***chassé*** followed by a ***jeté***.

On the other hand, the German origin of this sport (Fédération Internationale de Gymnastique, 1981; Goodbody, 1982), in the work of Friedrich Ludwig Jahn, "father of gymnastics", also comes out through the AG's vocabulary. The word *Kippe*, recurrent in training for the uneven bars, was used consistantly by the subjects in this study (Figure 4).

You are bending your arms in the **kip**!

How many **kips** did you do? Question asked by the coach.

It's no use making the transition and not continuing. Do the **kip** and cast to handstand. Point highlighted by the coach.

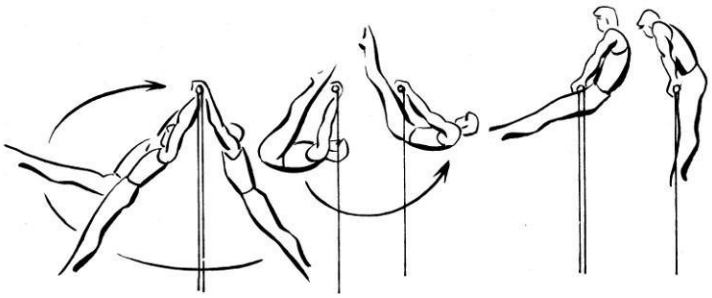

Figure 4. Kippe element. Source: Tonry (1973).

Despite the importance of the German language in WAG, we have observed that examples from this language such as *stütz, stützkehre* and *überschlag* are utilized with greater frequency in the men's gymnastics, quite probably due to the historical development of MAG and the origin of these gymnastics elements.

In this way, we notice that *Gymish* preserves its relationship to the origin of AG and that communication among those who participate in this sport highlights a cultural process, since it has suffered under the influence of the periods and history in AG, from its beginnings to present day.

Just as in Kowalikowa's (2008) report on the language of sports, in the discourse used in WAG, we notice sentences with specific syntactic constructions using verbs in the imperative or interjections that, according to the author, substitute more elaborate sentences.

Stay!!!! The other gymnasts scream out in chorus while observing a gymnast executing series on the beam at the moment she carries out a flight element.

Tight!!! Legs **tight**!!! **Hit it** hard!!! Coach Diego chants out the series as the gymnast Irina carries out her floor routine.

Grab it!!! A teammate screams when the gymnast grabs the bar after a release.

Push it!!! Girls watching the vault give incentive.

Let's go!!!! Gymnasts scream out, both men and women, during the gymnast Laura's realization of a suicide drill (resistence training dynamics in which the gymnast executes the acrobatic passes from the floor routine between running intervals).

Hit it!!! Hit the cast to handstand!!! **Firm**!!!**Firm**!!!!**Stay** stiff!!! The coach chants while observing a series.

Strong!!!! **Better**!!!! Coach Diego provides incentive.

Open!!! **Open**!!! **Open**!!! The coach speaks while observing the execution of an element on the *tumble track*.

Right on!!! The coach gives incentive while observing the sequence of elements in an acrobatic pass.

Go!! The young gymnasts yell out before the music starts.

Good!!!! Coach Diego yells out after watching the execution of elements on the bar.

This last expression used by Coach Diego, was also cited in Bortoleto's (2004) study in which the author reveals that "when a gymnast performs an element or an exercise in a 'brilliant' way, both the coach and frequently the other athletes use the expression *good*". This kind of expression, as well as the other imperative expressions cited above, is common in the competition environment and is used by coaches, atheletes, and, in some cases, by the spectators, especially when the crowd is made up of people who follow the sport and know about its peculiarities.

Throughout the observations and dialogues established with the protagonists of the study, we determined that the specific lexicon of WAG increases each year with the addition of new elements. According to Nunomura (2008), the FIG can name a new element in the CoP using the gymnast's name when he/she is the first one to present

it in an official competition with good execution. In 2017, at the World Championship held in Montreal, Canada, 10 elements were submitted to the Fédération Internationale de Gymnastique to be evaluated for inclusion in the Women's Artistisc Gymnastics CoP (Fédération Internationale de Gymnastique, 2017) increasing the lexicon of this sport.

This aspect is a significant particularity of this sport. It also allows for the continued expansion of *Gymish*. Since 2002, a Brazilian gymnast had named a gymnastics element in the CoP. Even though many people attribute the unprecedeented inclusion of the first Brazilian element to the gymnast Daiane dos Santos, it was the athlete Heine Araújo who successfully incorporated a new element for the first time in the history of Brazilian gymnastics. Heine wrote her name on the *magna carta* of this sport with a salto forward stretched with a double twist during her balance beam routine presented at the 2001 World Championship in Ghent, Belgium (Figure 5).

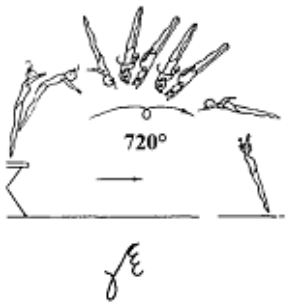

Figure 5. Araujo element in the CoP. Source: adapted from FIG (2013a).

As determined by this sport's tradition, some of the most popular elements in AG, those that are recognized by the general public, were named with the last names of their creators: Josef **Stalder**, Natalia **Yurchenko**, Mitsuo **Tsukahara**, Natalia **Shaposhnikova**, Nadia **Comaneci**, Yelena **Shushunova**, Bernd **Jäger**, Eberhard **Gienger**, Alexander **Tkatchev**, among others. In addition to the female Brazilian gymnasts Daiane dos Santos e Heine Araújo, since the beginning of the 21st century, the male gymnasts Sérgio Sasaki, Diego Hypólito and Arthur Zanetti have also had elements baptized with their names in the CoP, revealing the recent incorporation of Brazil into the high performance of this sport.

Written language: symbols in women's artistic gymnastics

For millenia and millenia, mankind depended primarily on oral language. Knowing, based on fossil analysis, that mankind has been around for three million years, and considering that writing, as it is now, emerged about six throusand years before Christ, it's possible to say that it appeared seconds ago in relationship to the existence of humanity (Ullman, 1991, p. 127).

According to Pierce (1999), in addition to verbal language and the occident way of alphabetic coding of Greek origin, there are other forms of codifying the writing. These forms are different from the languages that are articulated using alphabets, such as hieroglyphs, pictograms, and ideograms.

In 1979, the Women's Artistic Gymnastic Technical Committee published, for the first time, the symbols for the WAG elements (Fédération Internationale de Gymnastique, 2013a). According to Oliveira and Bortoleto (2009), this language system, codified by symbols that represent the elements of this sport, seeks to facilitate the registering (notation) of the routines performed by the gymnasts.

After years of development and use, the Fédération Internationale de Gymnastique included these symbols for the first time in the 1993 edition of the CoP. This fact consolidated its use in AG judging process. At that time, the symbols for each element and their respective variations were introduced in the CoP creating a particular way of communication. In fact, the AG symbols permit a kind of reading similar to that used in the reading of the Chinese and Japanese languages, since the meaning of one action or gymnastics element is inserted with one, unique symbol, which allows for greater agility when observing, registering and then reading afterwards.

Unlike Portuguese, in which it is necessary to read a word or group of words made up of letters that only make sense when they are grouped together, *kanji*, the ideograms used in written Japanese, allow for the direct association between a graphic symbol and its meaning (Walter, 2011).

Santaella (2002, p. 25) points out that, "the symbol is associated with the object it represents through an associative habit that is processed in the mind of the interpreter and which leads the symbol to mean what it means". This reflection demonstrates that the symbol is connected to its object by virtue of an idea. Complementing this, Bonfim (2006) shows that the symbol functions as a condensor and evocator of an idea and offers a definite and limited value, which aids in the communication between consciousnesses. For this reason, the symbol is distinguished from the index and the icon, since it is not dependent on a factual relationship or on any similarity with its object. However, this is subject to internalization in the mind of whoever is interpreting it, without which there would be no meaning. This leads us to the process of endoculturation (Laraia, 2011). In the case of WAG, the symbols operate in the sense that they bring the characteristics of the elements and/or actions to the mind of whoever is interpreting them.

Furthermore, the Fédération Internationale de Gymnastique (2013a) points out that the objective for adopting the symbols is to improve communication between judges, gymnasts, and coaches by breaking down the barrier imposed by traditional language and also favoring objective evaluation. The transcription of the elements allows for making posterior consultations in case of a discrepancy in judges' scores that exceeds the margin established by the CoP or any doubts that might emerge from coaches and gymnasts.

This aspect refers to Ullman's (1991) concept afirming that all writing has a mneumonic value, since it allows one's memory to be transfered to another. Upon writing down the symbols from the routine, the judge allows other individuals to discover the elements presented by the gymnast, and associate the values and the execution errors attributed to them. In Figure 6, we can visualize the *Dos Santos I* element with its respective symbol.

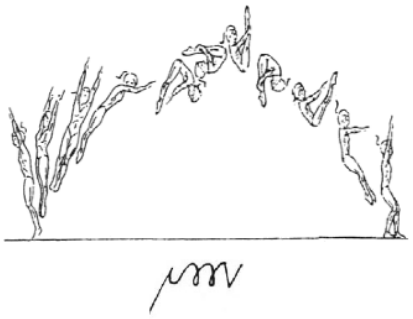

Figure 6. Arabian double pike (Dos Santos I). Source: FIG (2013a).

Using symbols for writing makes it possible to describe complex elements quickly, which are understandable to all involved with AG. Bortoleto (2004, p. 308) makes it explicit that, "upon representing an action with a symbol, one seeks to simplify

the registration, the communication, and/or the comprehension". For this reason, graphic symbols are used to transcribe and transmit, by way of written language, the gymnastics elements. This permits, for example, the description of a routine with the combination of multiple symbols. In this writing system, we notice that there is a certain logic that facilitates the use and incorporation of the new elements, as seen in Table 1.

Table 1
Example of elements and their symbols. Source: FIG (2013a).

ELEMENT	SYMBOL
Salto	
Double salto	
Twist	
Double twist	
Double salto with a twist	
Double salto with a double twist	

We have observed that the use of symbols and their combinations allows for the elaboration, with greater precision, of messages that register and transmit information and knowledge of this sport, which would be difficult to represent or describe in words.

Even though wide use of this kind of language was not seen along the field observations period, this kind of language was present in the coaches' notations and the CoP that was always in the gymnasium being consulted by the athletes and their sporting mentors.

We point out that the continued and official use of the symbols during the evaluation process in the competitions motivated all the professionals involved to incorporate them into their day-to-day work.

CONCLUSIONS

According to Laraia (2011), we can identify individuals of different cultures through a series of characteristics, among which are linguistic differences. The author reveals that this distinction allows for immediate and empirical observation and that, "man has spent a large part of his history on Earth separated into small groups, each one with its own language, its own vision of the world, its customs and expectations" (Laraia, 2011, p. 72).

Throughout this study, we have observed the presence of a terminological or lexical repertoire specific to WAG that represents a marked characteristic of the microculture of the high performance training gymnasium. We know that, through an accumulative process, man reflects the knowledge, experiences of his predecessors, and becomes an heir to this heritage. In the case of our study, the gymnasts and coaches exhibited these traits in their communication process.

Just as human language is a cultural product, *Gymish* can be considered a product of the sporting culture and, more

specifically, of the AG culture. We notice that this lexicon, specific to WAG, is in a constant process of development and receives influences and contributions from all of the individuals that participate in the sport, especially the athletes, coaches, and judges. These protagonists of the AG seek, by way of a specific language, to meet the communicative needs specific to the gymnasium and to the competitive context.

We noted, through the FN obtained in this study that the very origin of WAG influenced and is reflected in the language specific to this sport. This aspect was verified by the utilization of words with origins in the French and German languages, which belong to countries that were determinant in the process of the development of AG.

In addition to oral language, we found that the need to transcribe and transmit information about the gymnastics elements motivated the development of symbols. This codified system made it possible to transcend the barrier of different languages present in the universe of countries that participate in AG competitive scene.

The symbols are understood internationally and make it possible to quickly transmit information at the exact moment of evaluation during the competition which, in the opinion of the Fédération Internationale de Gymnastique (2013a), makes the process more objective, since it permits further consultation in case of any doubts.

Finally, we consider oral language, as well as the elements symbols and semantic peculiarities, to be worthy of attention in future research. We would also add the need for investigations that contemplate non-verbal language, which makes it possible to explain the execution of the elements and the feedback on errors of execution during training.

Dialogue with different knowledge fields, principally the ones of linguistics and semiotics, could deepen our study, which is rich with data and information that has potencial to contribute to the better understanding of the AG and its participants, whether they be gymnasts, coaches, judges, parents or spectators.

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DR. MIROSLAV TYRŠ – FATHER OF THE SOKOL AND PHILOSOPHY OF THE SOKOL

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Original article

Abstract

The aim of the article is to present an overall image of the Bohemian philosopher, art historian and founder of the Sokol in the territory of Bohemia – Miroslav Tyrš. The article consists of two chapters. The first chapter – Life of Dr. Miroslav Tyrš – describes personal life of Miroslav Tyrš and his key tasks and activity within the Sokol Pražský and the Sokol movement. The second chapter – Philosophy of the Sokol – is focused on a brief review of ideological concept of the Sokol philosophy. In this chapter there are stated and elucidated the main Tyrš's philosophical basis in conception of physical education, which had and still have the great ideological value not only in the field of physical education.

Keywords: *Miroslav Tyrš, Sokol Pražský, The Sokol, kalokagathia, philosophy.*

INTRODUCTION

The human is the only being who can think about the past, who can manage the present and who can plan the future. Therefore, human existence is based on the clear goal or many partial goals, that are assumption for meaningful human activity in any field of the human life. In the 17th century, the great Bohemian savant and pedagogue – Jan Amos Komenský came up with the idea, that physical activity and sport have incontrovertible impact on the moral and mental aspect of the human. This powerful idea was successfully resurrected and inspirited via the Sokol movement founded by Dr. Miroslav Tyrš in the 19th century.

Life of Dr. Miroslav Tyrš

Miroslav Tyrš (baptized as Friedrich Emmanuel Tiersch) was born on the 17th of September in 1832 in Děčín (North Bohemia Region) in the family of doctor Jan Vincenc Tirsch (originally from Germany). In early childhood Tyrš experienced a trauma, when his two younger sisters, father and mother were infected by tuberculosis and finally all of them died. After mother‘s death, six years old Tyrš was adopted by his uncle Bedřich Kirschbaum. At the beginning Tyrš attended elementary school in Vtelno (Central Bohemia Region) and in Stránov (close to the city Mladá Boleslav in the Central Bohemia Region). In 1841 he was adopted by his second uncle Antonín Kirschbaum from Prague. In Prague Tyrš attended Maltesian trivial two-classed school. Later he continued at Malostránske gymnázium (grammar school) in Prague, where he started to be interested in the ancient

culture, which fascinated him. At grammar school he also started to practice gymnastics following the doctor's advice (Dvořáková, 1989, pp. 7-13).

Figure 1. Miroslav Tyrš as graduant at grammar school. Pencil drawing by L. Kirschbaum, 1850. (Československá obec sokolská. Dr. Miroslav Tyrš 1832–1932. K stým narozeninám zakladatele Sokolstva. Československo: Praha III, Tyršův dům)

In 1848 Tyrš participated in the Slavic Congress in Prague. The Congress strengthened his conviction of fully conscious Bohemian and Slav being. After the Congress he decided to changed his school attended to Staroměstské akademické gymnázium (academic grammar school), which was considered to be a patriotic school. In 1850 he finished the grammar school by passing the final exam with full marks (Havlíček, 1947, pp. 5-7).

After finishing grammar school he continued in studying at the Faculty of Law at the Charles Ferdinand University, but already after one year of studying, he definitely decided for the Faculty of Philosophy at the same University. Except for Philosophy, Tyrš was interested also in natural sciences, languages, literature, aesthetics, political history, mathematics and anatomy of the human body. Since Tyrš had a predisposition to tubercolosis and suffered from frequent neurosis, he started to practice gymnastics following the doctor's advice, during the study. First he attended *Ústav Malýpetrův (Institute of Malypetr)* and later private *Tělocvičný ústav Schmidtův (Gymnastic Institute of Schmidt).* Both institutes preferred teaching based on the gymnastic system of *Ernst Friedrich Ludwig Jahn* (founder of the gymnastics movement in Germany) in combination with gymnastic apparatus work created by *Wilhelm Bernhard Eiselen*. Jahn-Eiselen's gymnastic system have become an inspiration for Tyrš and have become a basis of the exercises for the Sokol (Kos, 1982, pp. 80-84).

Tyrš had a positive attitude towards the nature and he was seriously interested in tourism, what confirms the fact, that during his studium he went hiking through the Alps and his final destination was Italy (Pelikán, 1931, pp. 8-9).

In 1855 he graduated at the Faculty of Philosophy in Prague and he decided to work as an instructor in *Gymnastic Institute of Schmidt.* In 1855 Tyrš have become a nursing father in the family of manufacturer Bartelmus in Nový Jáchymov. He was also studying to become a Doctor of Philosophy and in 1860 he successfully graduated in Prague (Československá obec sokolská, 1932, pp. 6-7).

After his studium, Tyrš was still intensively interested in philosophy and he focused on philosophical work of A. Schopenhauer. He created a complex work called *Historische Einleitung in der Philosophie A. Schopenhauers (Historical Introduction into A. Schopenhauer's Philosophy)* which he later translated into Czech language (translation has been lost in 1914) and this work was supposed to serve as a pedagogical model for Tyrš's future pupils (Československá obec sokolská, 1932, pp. 53-54).

Tyrš was interested in Shakespeare‘s literature and he analyzed his dramatic literal works. In 1865 he participated in Shakespeare’s celebrations in Prague. Nový Jáchymov and his connections with Bohemian patriots had influenced and shaped Tyrš*’s* consciousness of Bohemian being and received Czech language as a maternal language. In 1852, as a member of *Matica česká (Czech publishing house and cultural institution)*, he started to use signature of the name *Bedřich Tirš* and since 1862 finally *Bedřich Tyrš*. Shortly after this, he definitely accepted his first name Miroslav, so his full name has become purely Czech, *Miroslav Tyrš* (Martínková, Klír, Swierczeková, 2013, pp. 2-3).

Figure 2. Miroslav Tyrš, the founder and the first chief of Sokol Pražský (The Sokol). Československá obec sokolská. Dr. Miroslav Tyrš 1832–1932. K stým narozeninám zakladatele Sokolstva. Československo: Praha III, Tyršův dům

In 1860, ranger Nittinger presented Tyrš to *Jindřich Fügner*. Fügner and Tyrš had the same interests and similar progress of personality from the national perspective, so they have become a real friends. During the visitation of Prague, Tyrš met *Dr. Eduard Grégr*, who enabled Tyrš to became an editorial collaborator of *Náučný slovník Riegerov (Rieger’s Encyclopedia)*. Tyrš used pseudonym „Ti“ and he published overall 22 philosophical terms into encyclopedia (Havlíček, 1947, pp. 8-9).

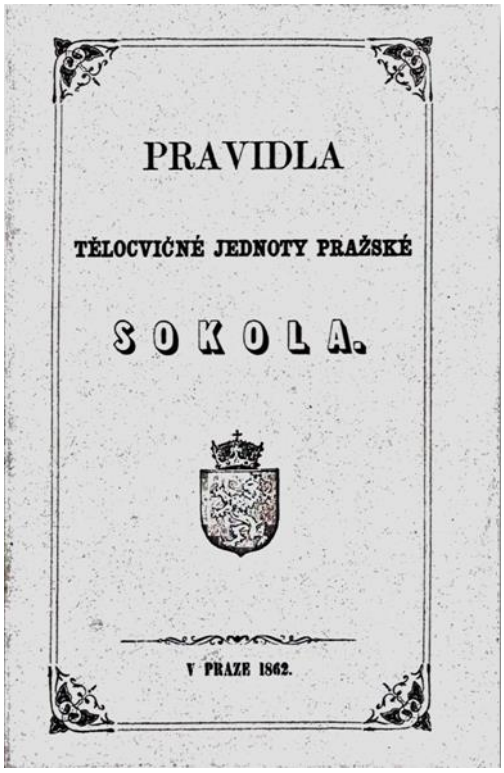
In 1859, in Austro-Hungarian Empire occurred radical political changes. The Austrian Minister of Interior, Alexander Bach, was removed from his post, because of the failure of his neo-abolition and military defeat. On the 20th of October in 1860, Austrian emperor, Franz Joseph I. renewed parliamentarism via the October Diploma. This change meant for the Austrian people the liberation of the tense political situation and partial freedom. On the Bohemia territory occurred patriotic activity and there were founded printed journals *Národné listy,* art societies *Hlahol, Umelecká beseda, Svatobor.* Young generation of writers and artists came forward – *J. Neruda, V. Hálek, J. Mánes, J. Čermák, B. Smetana* (Žitná, 2003, p. 127).

In this period both gymnastic institutes in Prague (Institute of Malypetr, Gymnastic Institute of Schmidt) had a plan to establish the German-Bohemian gymnastic institute according to model of Turner‘s German association (Mauerhart, 1930, pp. 8-9).

The establishment of such a institution seemed hopefully, however wealthy German sponsor Dresdner Bank with branch office in Prague strictly accepted only establishment of German institute. Tyrš felt a need to divide from Germany and process of germanization. He started to prepare documents needed for establishment of Bohemian gymnastic institute. Tyrš along with *Dr. Julius Grégr* (editor in printed journal Národné listy) and *Eduard Grégr* (brother of J. Grégr) created the bylaws, which were presented to c. k. proconsulate (c. k. means imperial-royal) in December 1861. On the 27*th* of January in 1862 bylaws were officially approved. The first constituent assembly was held on the *16th of February* in 1862. This event is officially

known as a birth of the first Bohemian gymnastic institute named *Tělocvičná jednota pražská (Prague Gymnastic Club)* in Austro-Hungarian Empire (Sak, M., 2012, pp. 60-63).

For the mayor of *Tělocvičná jednota pražská (Prague Gymnastic Club)* was elected Jindřich Fügner known as example-supporter of democracy, noble humanist and authority in financial domain. For the vice-mayor, manager and later governor (after establishment of this function) of *Tělocvičná jednota pražská* was elected Miroslav Tyrš. As the main cash-keeper was elected Ferdinand Náprstek (Havlíček, V., 1947, p. 10).


PRAVIDLA

TĚLOCVIČNÉ JEDNOTY PRAŽSKÉ

SOKOLA.

V PRAZE 1862.

Figure 3. The first bylaws of Tělocvičná Jednota Pražská (Gymnastic Prague Union) with bohemian emblem. Československá obec sokolská. Dr. Miroslav Tyrš 1832–1932. K stým narozeninám zakladatele Sokolstva. Československo: Praha III, Tyršův dům

On the proposal of Emanuel Tonner (the professor of History) *Telocvičná jednota pražská (Gymnastic Prague Union)* has approved the name *Sokol pražský (The Sokol)* on the general assembly on the 13th of January in 1864. The name *Sokol (Falcon)* expressed his national character and came originally from the Slavic symbolism. South Slavs used this symbol to portray their heroes fighting against the Turkish domination. Tyrš has proposed the institutional word *"Tužme se" ("Let Us Harden Ourselves").* Josef Barák has proposed institutional greeting *"Nazdar" ("Cheerio")*. The official flag and costume of the Sokol were designed and made by Josef Mánes (significant and famous Bohemian painter and illustrator). The costume, typical for the Sokol, were trousers and jacket made from tow-cloth with the closing according to the fashion of national čamara (kind of gent's coat), rounded cap decorated by falcon's feather and cockarde in the national (red and white) colors and red garibaldi shirt according to the famous Italian revolutionist Giuseppe Garibaldi (Kopp, Herget, 2012).

J. Fügner introduced being on first-name terms and he introduced also using salutation *"Bratř" ("Brother")* among all members of the Sokol. As the major symbol of the Sokol red silky cockarde with falcon feather was approved. In the middle of the cockarde, there was placed an iron capital letter *„S"* (Tělocvičná jednota Sokol Ústí nad Orlicí, 2012).

The first exercise of *Telocvičná jednota pražská (Gymnastic Prague Union, later known as Sokol Pražský)* was practiced in gymnasium of Malypetr with participation of 60 practitioners on the 5th of March in 1862. Tyrš developed exercise program, 11 rules of exercises and he drew up first gymnastic corps with 20 gym instructors (F. Loubal, 1932, p. 177).

The gymnastics instructors and gymnast practitioners were missing steady gymnastic system and gymnastic terminology in Bohemian language because of using Bohemian-German slang expressions. At first, Sokol Pražský took Malypetr's gymnastic terminology, but it was not very popular among gymnastics instructors and gymnasts, so gymnastic committee has appointed the commission, which was

supposed to review new gymnastic terminology and preparing documents for the press (Sak, 2012, pp. 70-71).

In April 1862 *Tělocvičné názvosloví (Gymnastic terminology)* was released in press, written by Tyrš as a part of *Pravidlá telocvičné jednoty pražské Sokola (The rules of Gymnastic Prague Sokol Union)* (Tyrš, 1862).

Tělocvičné názvosloví (Gymnastic terminology) contained more than 150 terms for the floor exercises and apparatus work. Tyrš was inspired by *Jungmann dictionary*. He took over 450 terms from Jungmann dictionary and gave a new meaning to half of them. Tyrš wrote the notes about every exercise and he archived his notes in his personal card file. From these database, he finally created circa 300 original gymnastics terms (Havlíček, 1947, pp. 12-13).

The last and the final form of Bohemian gymnastic terminology written by Tyrš was published in the press entitled *Základové telocviku (Basics of Gymnastics)* in 1872. Tyrš's work was generally approved in the Sokol, in physical education at schools and has become a part of languages dictionaries. In work *Základové tělocviku* Tyrš developed also new gymnastic system into which he included floor exercises, disciplinary gymnastics and sports from ancient physical culture – wrestling, fencing, swimming, bur pot, weight lifting and athletic sport – running and jumping disciplines (Martínková, Klír, Swierczeková, 2013, p. 3).

Tyrš divided physical exercises into four groups:

1. Physical exercises without using gymnastic apparatus and without the help of assistants (floor exercise and disciplinary gymnastics)
2. Apparatus-work (gymnastics with apparatus, gymnastics on apparatus)
3. Group gymnastics (exercises realized only with support of another assistants)
4. Combat sports (exercises with overcoming physical resistance against another gymnast) (J. E. Scheiner, 1887, p. 55).

Tyrš determined and propagated in the Sokol these ethical (moral) principles:

- strength and manhood
- activity and endurance
- devotion to the freedom and to the motherland
- volunteering and discipline
- mutual fraternal relation of the Sokol members (Stejskal, V., n. d.).

The mission of the Sokol, in contrast to another gymnastic clubs, was to come to an ancient ideal of harmonious development of human body and psyche (soul), known as kalokagathia. The admiration to the ancient Greek is expressed by Tyrš in the work *Hod olympický (The Olympic Feast),* which was a part of the *Zborník sokolský (The Sokol Almanac)* in 1868 (Tyrš, 1869, pp. 2-3.).

Figure 4. The original Sokol flag. Czechgallery. The History of Sokol since 1862. Retrieved from http://www.czechgallery.com/sokol/

By Tyrš's detailed description of the ancient Olympic Games in his work, he tried to support an idea of calling merging congress of Sokol Unities with public exercises. He dreamt about this idea like about *"Velký hod sokolský" ("The Great Sokol Feast")* (Sak, 2012, p. 111).

Austro-Prussian War (1866) meant a need for implementation of national defense education into the Sokol for Tyrš. The evidence of Tyrš's efforts was a publication

of *České velení a názvosloví vojenské (Czech military command and terminology)* written by Tyrš, that became a base of command terminology for Czechoslovak Army (Tyrš, 1867).

For the first 5 years Sokol Pražský (The Sokol) organized the public exercises only in gymnasium. The first public exercise took place in Prague's gymnasium at Hall of Apollo building on the 1st of June in 1862. During this historic event was festively revealed the Sokol flag. After the second public exercise Sokols (means members of the Sokol) had to leave areas of Apollo because this building have become a convent for the nuns. Under the impulse of J. Fügner was builded the first Bohemian Sokol house – *Sokolovňa (Sokol house, home).* Fügner provided building ground and funded construction works. Sokolovňa was projected by eminent Bohemian architect Vojtěch Ignác Ullmann. First exercises in new building have started at the end of 1863. The official building approval was realized in 1864. Sokolovňa included dimensional gymnasium with tribune, cassette ceiling, lune, courts (halls) and dayrooms for concerts, dramas and ball dancing (Prager, 1887, pp. 78-83).

The first official outdoor public exercise of the Sokol was held at Rohanský ostrov (a part of Prague) on the 19th of May in 1867. The important propaganda of the Sokol idea were trips, so-called *„landpartiemi"*, which were organized by Tyrš since 1862. The first hike trip was held on the 11th of May in 1862. Circa 200 members of the Sokol, dressed in traditional Sokol costumes, went up Závist (a part of Prague, Celtic Oppidum). These trips had sports-healthy (averaged time of hiking was about 8-9 hours) and cultural-edifying character. The trips strengthened the patriotic consciousness of Bohemians and these events have become a reliable tool for the propagation of the Sokol. All hikes used to be related to visitations of the memorial and religious places (Martínková, Klír, Swierczeková, 2013, p. 4).

Figure 5. Designs for the Sokol costume by Josef Manes, 1862. Czechgallery. The History of Sokol since 1862. Retrieved fromhttp://www.czechgallery.com/sokol/

At the regular meetings of gymnastic instructors, Tyrš emphasized the need of the establishment of Sokol Unions in other Bohemian cities. Finally there have been established Sokol Unions in Jaroměř (1st of June 1862), in Kolín (25th of June 1862), Nová Paka (4th of July 1862), in Turnov, in Příbram (18th of August 1862), in Jičín (5th of November 1862) and in Kutná Hora (1st of December 1862). In 1865 Sokol Unions had overall 1 949 members. In 1867, there were known 13 Sokol Unions in Moravia and Silesia. As the first Sokol Union in Moravia was established Sokol in Brno on the 2nd of January in 1862 (Havlíček, 1947, p. 15).

The Sokol Unions expanded into foreign countries. The United States of America was the first country out of Europe, in which Sokol societies were successfully established. The first Sokol Union in USA named *Sokol St. Louis* was established by Bohemian emigrants K. Procházka, J. Vostrovsky, E. B. Erben on the 14th of February in 1865 in St. Louis, Missouri (Dostál, V., 2015, p. 8).

The American members of the Sokol were evidently more active than the Sokols in Bohemia and after the establishment of central organization *National Sokol Union* (since 1917 known as *The American Sokol Organization)* in 1865, there were established 4 Sokol Counties in 1870s. *Eastern County* in New York associated 14 Sokol Unions. *Northeastern County* in Cleveland associated 7 Sokol Unions. *Central County* in St. Louis associated 12

Unions and *Western County* in Omaha associated 17 Sokol Unions. The Sokol belonged to the most numerous Bohemian organization in the USA. Before the First World War there were more than 12 500 American Sokol members (I-prozradit, n.d).

Figure 6. The public exercise of Sokol Pražský (The Prague Sokol) at Rohánsky ostrov in Prague on the 19th of May in 1867. Drawing by F. Čermák. Československá obec sokolská. Dr. Miroslav Tyrš 1832–1932. K stým narozeninám zakladatele Sokolstva. Československo: Praha III, Tyršův dům

Tyrš and Fügner emphasized the importance and need of Slavic reciprocity, therefore a lot of Sokol Unions were situated in the Slavic countries. The first Sokol Union established out of Bohemia was in Slovenia named *Južni Sokol* on the 1st of October in 1863. Next Sokol Unions were established in Croatia (1874), in Serbia (1891), in Poland (1867), in Russia (1883), in Ukraine (1894), in Bulgaria (1879) and finally in Slovakia (1918). Sokol Unions have been established in others non-Slavic countries such as Germany (1889), Austria (1867), Switzerland (1868), France (1891), England (1903), Argentina (1908), Denmark (1910) and Canada (1911) (Mauerhart, 1930, pp. 55-60).

Tyrš did not focus only on the physical exercises for men, but his aim was also to focus on the physical education for women. Kabes (2003, p. 2) states „Still according to Tyrš' beliefs, a nation is not just its men. Children should also be given the opportunity to become accustomed to Sokol discipline, and Tyrš also claimed that "the best qualities are implanted by motherly care and teaching". And this led him to initiate and then help to found in 1869 *the Gymnastic Society of Women and Girls of Prague,* an organization that opened the Sokol idea to women". In December 1897 the chairmanship of the Bohemian Sokol Organization called for the establishment of the women physics unions and for the first time Sokol women had actively participated on the IV. všesokolský slet (4th Sokol Slet) on Letenská pláň in Prague in 1901.

In 1870 Tyrš had to visited health care institution in Waid (Switzerland) because of his neural problems. During the therapy Tyrš has written work *První Závěť Tyršova (First Testament of Tyrš)*, which should represent his next program for the Sokol. Tyrš's work has become the basis of Tyrš's keynote speech named *Náš úkol, směr a cíl (Our Task, Direction and Destination)*. This keynote speech has become the main ideological and program basis for the Sokol, that was published as the editorial in the first issue in *časopis Sokol (The Sokol Journal)* founded by Tyrš's redaction in 1871 (Mauerhart, 1930, p. 20).

Tyrš (1946, p. 13) states in the treatise *Náš úkol, směr a cíl (Our Task, Direction and Destination)* that „As many members of the nation should become the members of the Sokol as it is possible, because the "Sokol case", as far as all states and layers are concerned, means as much as increased physical and moral upbringing of the whole nation of the Czechoslovaks (Bohemian-Slavs), bred to strength, bravery, nobleness and ardour".

On the 11th of March in 1872 the first Sokol county *Sokolská župná jednota moravská (Moravian Sokol County Union)* was approved. First public exercise had been accomplished in Prostějov, but Sokols has been discharged. The first Unions did not laid down rules in bylaws for consolidation of counties, therefore Sokol Unions could not merge into larger units. These facts had a negative impact on the

Sokol what was reflected in extinction of many Sokol Unions, which suffer from insufficient financial sources. In 1875, out of 128 Sokol Unions remained only 71 Unions and 22 of them were fire associations (clubs). Tyrš was frustrated because of this situation and had visited medical institution in Italy (Mauerhart, 1930, pp. 20-21).

The important point for the rebirth of the Sokol was renewing of the activities of the Sokol Journal in 1881. In 1882, on the 20th anniversary of the establishment of the Sokol, Tyrš had decided to organize the festival named *I. všesokolský slet (1st Sokol Slet)*. This festival had a huge success and was accepted by Bohemian citizens with enthusiasm. The ceremonial procession took place in Střelecký ostrov (a part of Prague) with participation of 1 600 uniformed members of the Sokol representing 76 Sokol Unions from Bohemia, Moravia, Wien (Austria), Ljubljana (Slovenia), Zagreb (Croatia) and USA. The main part of event was public exercise with 720 gymnasts, half of the gymnasts performed the floor exercise directed by Tyrš. Next part of festival program was apparatus-work presented by 40 Sokol teams. This successful festival finished with the evening meeting of members of the Sokol in Měšťanská beseda (one of the oldest association in Prague, which organized open discussion, forum for townsmen). First Sokol Slet has set and confirmed principles of education to the physical fitness, to the military capability and to the moral and societal discipline. The Sokol slet was a great historic event and a culmination of Tyrš‘s activity in the Sokol. In 1884 Tyrš decided to abdicate from the post of a chiefdom of the Sokol and focused his attention to scientific, pedagogical and art studium at University of Prague. On the 6th of February in 1884 Tyrš was appointed as a professor at Faculty of Philosophy at Charles Ferdinand University, but Austrian government officials sended him a letter with strict requirement, which was: "If it is in your interest to get academic degree seriously, you have to leave all responsibilities in the Sokol forever" (Kovář, 2016).

The hardly acquired professorship, academic lectures, scientific work, lot of activities in Arts, lots of responsibilities in the Sokol and the condition of professorship affected negatively Tyrš‘s health condition. On doctor‘s recommendation Tyrš has visited medical institution in Oetz (Austria, Tyrol), where was founded dead during therapy on the 8th of August in 1884. The real cause of his death is unexplained until now (Martínková, Klír, Swierczeková, 2013).

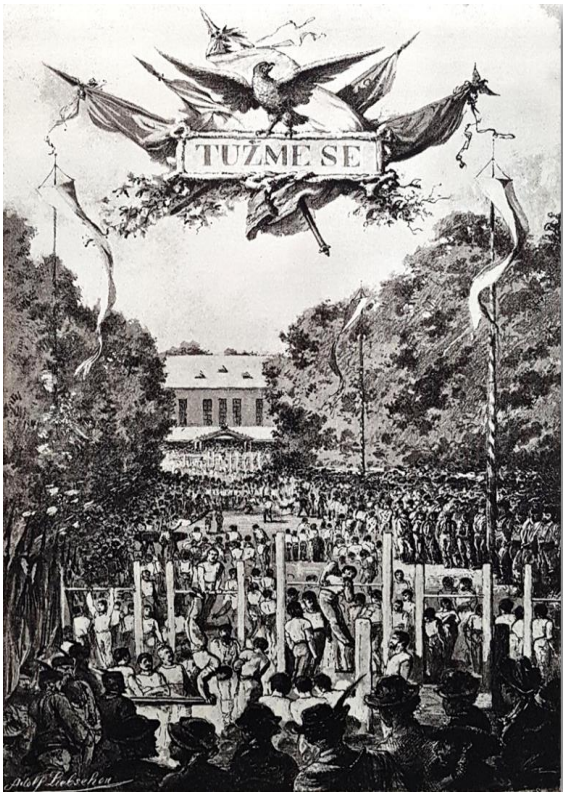


Figure 7. The public exercise of Bohemian Sokol Unions at Střelecký ostrov on the 18th of June in 1882. Drawn by A. Liebscher. Veřejné cvičení českých jednot sokolských dne 18. června 1882 na Střeleckém ostrově. Kreslil A. Liebscher.Československá obec sokolská. Dr. Miroslav Tyrš 1832–1932. K stým narozeninám zakladatele Sokolstva. Československo: Praha III, Tyršův dům

The important act for the Sokol movement after Tyrš‘s death was the establishment of the first Bohemian sokol county named *Župa Tyršova (The County of*

Tyrš) on 25th of August in 1884 in Kolín (Mauerhart, 1930, p. 24).

On the 5th of November in 1889, counties (Krkonošská župa, Podkrkonošská župa, župa Havlíčkova, župa Plzeňská, župa Podřipská, župa Fügnerova, župa Tyršova, Středočeská župa, Východočeská župa, župa Žižkova a Sokol pražský) with 185 Sokol Unions and with 22 000 Sokol members have been successfully integrated and included in *Česká obec sokolská (The Czech Sokol Union).* Česká obec sokolská (later only ČOS) has became a primary authority for the Sokol unions and for the Sokol counties. As the first mayor of ČOS was elected Jan Podlipný, as commission agent Josef Scheiner and as leader was elected František Čížek (Havlíček, 1947, p. 40).

ČOS successfully demonstrated its activity by the expedition with 137 members of Sokol to the World's Fair in Paris in 1889, where they participated in many gymnastics competitions organized by French Gymnastic Union. They won several medals and established the strong relationships with French gymnasts and French public. The Sokols have been credited with establishing the beginning of the strong French sympathy for the Czechs and their subsequent political alliances on this trip (Polidoro, 2000, p. 33).

The next important act of the Sokol movement was the unification of Moravian counties with Silesian counties into one county named *Moravskoslezská obec sokolská (The Moravian-Silesian Sokol Organization)* in 1892. In 1896 Moravian-Silesian Sokol Organization has merged with ČOS into *Svaz československého Sokolstva (The Federation of Czech-Slavic Sokols)* and after 15 years, in 1904 Moravian-Silesian Sokol Organization and ČOS have finally merged into Česká obec sokolská (The Czech Sokol Union) (Komanická, 2010, p. 23).

The rapid development of the Sokol behind the Bohemian and Moravian borders was reflected by establishment of many similar gymnastic organizations all over the world. Therefore, on initiative of ČOS, whose purpose was to merge the Slavic nations and to present the ideas of the Sokol, after *V. všeskolský slet (5th Sokol Slet)* with participation of 12 000 Sokol members, was established *Svaz Slovanského sokolstva (The Federation of Slavic Sokol)* in 1908. In the same year Slovakia (*Sokol na Slovensku*), Croatia (*Hrvatski sokolski savez*) and Slovenia (*Slovenian Sokol*) have been included into this federation. In 1910 Bulgaria, Poland and Serbia have been included into the Federation of Slavic Sokols and in 1912 Russia have been also included.

Figure 8. Sokolice – Sokol women, VII. Sokol Slet in 1920. Czechgallery. The History of Sokol since 1862. Retrieved from http://www.czechgallery.com/sokol/

The activity of the Sokol movement in Bohemia and Moravia has been interrupted during the both World Wars. During the World War I many members of the Sokol were active in persuading the Czechs (Bohemians) to defect from the Austro-Hungarian army to the Russian side. Sokol members also helped to create the Czechoslovak Legions and local patrols that kept order after the disintegration of Habsburg authority, and during the creation of Czechoslovakia in October 1918. They also fulfilled their title as the *Czech national army*, helping to defend Slovakia against the invasion of Béla Kun and the Hungarians (Djordje, 2016).

The Sokol flourished in the early interwar period, and by 1930 had 630,000 Sokol members. In this period Sokol members achieved (had) the best sport

results in the history of the Sokol movement. The best sport results are associated with Czechoslovak Sokol gymnasts. The men's Czechoslovak gymnastics team has won overall 7 World Championship in the team's competition in 1907, 1911, 1913, 1922, 1926, 1930 and in 1938. Among the successful Czechoslovak men's representation, consisted of active members of the Sokol including: J. Čada, F. Erben, B. Honzátko, K. Sál, J. Seidl, Pitl, J. Starý, J. Steiner, S. Svoboda, V. Svoboda, Douda, Pardubský, R. Pražák, J. Sýkora, S. Indruch, Karásek, M. Klinger, J. Malý, F. Pecháček, F. Vaněček, J. Effenberger, J. Gajdoš, J. Karafiát, L. Riessner, B. Šupčík, L. Vácha, V. Veselý, E. Löffler, Rybák, L. Tikal, J. Tintěra, G. Hrubý, A. Hudec, J. Novotný, V. Petráček and J. Sládek. Bedřich Šupčík, the Sokol gymnast has achieved a success, when he has won the gold medal in climbing on the rope discipline at the Olympic Games in Paris in 1924 and he has become the first Czechoslovak olympic winner. The great success in the sport results are associated also with women's Czechoslovak gymnastics team, who has become World Champions in 1934 and in 1938. Among the successful Czechoslovak women's representation were: M. Bajerová, V. Děkanová, V. Foltová, E. Hájková, A. Hřebřinová, V. Jarušková, Šebková, Z. Veřmiřovská, B. Dobešová, M. Hendrychová, H. Nežerková, M. Pálfyová and M. Skálová. Especially successful was Matylda Pálfyová, who has won silver medal in teams competition at the Olympic Games in Berlin in 1936 as the first slovak gymnast in Czechoslovak gymnastics women's team (Gajdoš, 2017).

The members of the Sokol held one last Sokol Slet (350,000 Sokols) on the eve of the Munich Agreement in 1938 and were later brutally suppressed and banned during the Nazi occupation (1939-1945) of Bohemia and Moravia (Djordje, 2016).

During the World War II the members of the Sokol were battling against the fascism. Especially important was the attendance of Sokol members in war action called *Anthropoid*. This war action's aim was to murder Reinhard Heydrich and it was successful, but Nazis executed 264 parachutist's assistants, half of them were Sokol members (Vítková, 2012).

Figure 9. Postcard – Česká obec sokolská (Czech Sokol Organization). Flag of Czech Sokol Organization. Czechgallery. The History of Sokol since 1862. Retrieved from http://www.czechgallery.com/sokol/

After the World War II, in 1947, the Sokol movement renewed activities and integrated 3686 Unions with 1 004 987 Sokol members, what was the greatest number since the Sokol's establishment (Kössl, Krátky, Marek, 2000, p. 252).

The Sokol's activity was also interrupted during communism in the 1950s. The only Sokol's activity that have survived were Sokol Slets called *Spartakiáda (Spartakiades)* and their purpose was to present communist regime (Sokol Pražský, n. d.).

Gajdoš, Provaznikova, Bednar and Banjak (2012, p. 79) state: „The mass gymnastic performances - Spartakiades formed a solid basis of the socialist system

of physical culture for its content versatility, variety of forms, time longevity and increasing massification. Spartakiades were always carried out in a huge stadium in Prague's Strahov where could be around 200,000 viewers. Spartakiade first held in 1955 on the occasion of 10-th anniversary of the liberation of Czechoslovakia. At the Strahov trained more than half a million children, youth and adults. They performed in 29 songs, which was a very comprehensive program for trainees and the audience."

The Sokol movement was successfully renewed after the defeat of communism in Czechoslovakia in 1989. Sokol continued with the program traditions related to the educational influence of a person responsible for himself, for the community and for democracy. In the name of Tyrš, Sokol has renewed the organization of Sokol Slets, which expect to be held every six years. The Last, XV. všesokolský slet (15^{th} Sokol Slet) was held in 2012 in Vršovice. In 2017 ČOS integrates over 160 000 Sokol members in 42 Sokol Counties (Sokol Pražský, n. d.).

ČOS is preparing XVI. všesokolský slet (16^{th} Sokol Slet) for 2018, on the 100^{th} anniversary of the establishment of the Czechoslovakia, which will be a representative act of respect for the traditions, values and philosophy of the Sokol, whose "father" is Dr. Miroslav Tyrš (Česká obec sokolská, 2017).

Philosophy of the Sokol

If we want to understand the Philosophy of the Sokol, we need to find the answer in the philosophical teachings of Tyrš, which have become the ideological (philosophical) basis of the Sokol movement.

During his university studies at the Faculty of Philosophy in Prague, Tyrš was first interested in the philosophy influenced by Hegel – so-called "Hegelianism". Hegelianism was not widespread in the territory of the Bohemia at that time for linguistic reasons (lectures and texts in the German language) and due to its abstract complexity. Hegel's philosophy is based on the principle of idealistic, dialectical philosophy using the principle of triad in the development of the idea: thesis - antithesis - synthesis (Krejčí, 1986).

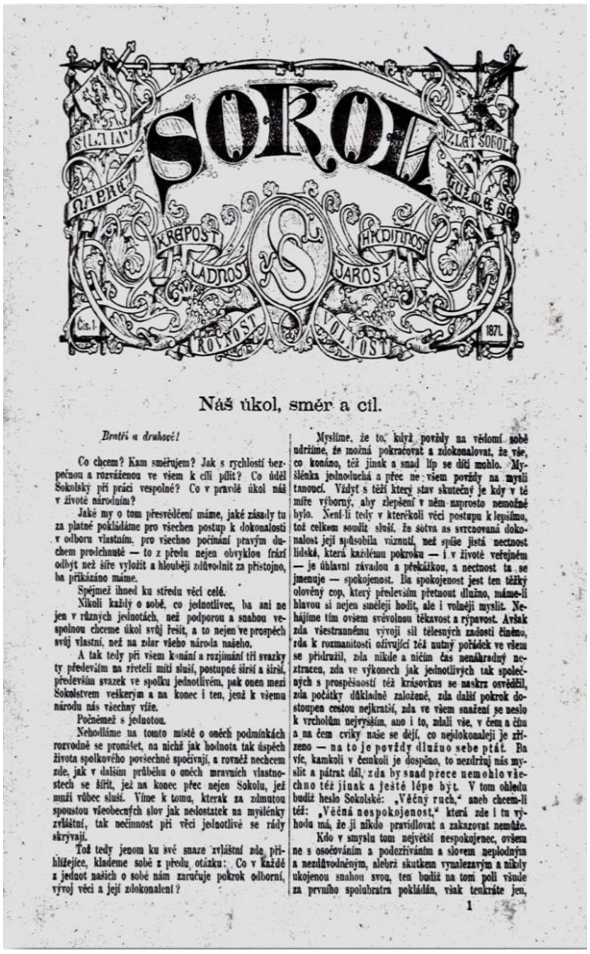


Figure 10. The frontpage of the first issue of the Sokol Journal. Československá obec sokolská. Dr. Miroslav Tyrš 1832–1932. K stým narozeninám zakladatele Sokolstva. Československo: Praha III, Tyršův dům

Oborný (2017, p. 8) interprets Hegel's triad as follows. G. W. F. Hegel formulated as a logical obelisk of his philosophical system the concept of „absolute spirit“. The inspirational power of the basic concepts of his philosophical system was also used by many personalities standing outside the immediate philosophical work. They also included Tyrš. According to Hegel, the whole being is the embodiment of the idea, and all the action of this world is essentially a movement of the concept (Hegel, 1986,

pp. 90-92). A consequence of this reasoning is the thesis that all reasonable is real and all real is reasonable. If we place the concepts of Tyrš into this formula, then the outcome will be that the idea of physical education is a reality and the "reality" of physical education is soulful. The absolute spirit (thesis) is absolute only in terms of the strength of its content, not in terms of its state, that is, it is not at the stage of a completed development. The absolute spirit feels in itself the instinct to develop, it is searching for the tendencies within to develop; it finds them in the process of self-alienation, in the forms of its so-called "non-being" in which it becomes objectified (antithesis). The idea of physical education as a part of the absolute spirit goes through the stage of "non-being", it is objectified for our thinking (as philosophy of motion) and for our senses in the form of real physical education and all of its processes. The first form of this non-being of the absolute spirit (antithesis) in our case and with regard to the inclination of Tyrš towards Hegel is the physical education, more precisely, the philosophy of physical education. It follows that the physical education necessarily contains the spirit in itself, we can sense its purpose and message. A sensitive and soulful person seeks mental balance in physical motion and listens carefully to all the thought potentials of this motion. And that is exactly the Hegelian synthesis in which the unification of the subjective (human) aspect of physical education with its objective "predestination" takes place.

Tyrš, as we can see, sympathized with Hegel's philosophy, he was a student of some "Hegelians", and he accepted the ideas of brotherhood, the principles of love, progress and both individual and social development (Válek, 2003).

However, the philosophical studies of Tyrš are not only focused on G. W. F. Hegel. The thinking of Tyrš was also influenced by Schopenhauer. The development of the thought of Tyrš contained 2 major periods:

During the first *Schopenhauer period*, he became acquainted with the teaching about the will as the essence of all the existence, as the world will which leads to the spreading of power, glory and thus also of the sources of fight, distress and poverty. Tyrš sought a solution against the above consequences in indomitable will. The voluntarism of Tyrš is therefore different from Schopenhauer's voluntarism (leading to resignation and pessimism) and leads to activity, and it is basically expressed in the Sokol slogan *"Tužme se" ("Let Us Harden Ourselves").* This slogan of Tyrš expresses the purpose of unity, of goal, the idea that it is unworthy either to underestimate or to flatter oneself (Krejčí, 1968).

The second period was represented by *positivist evolutionism*, which has later become the life philosophy of Tyrš. He asks the philosopher to be sceptical, to search and combine the knowledge of sciences, contribute (benefit) to the progress of humanity. Tyrš, influenced by Charles Darwin was convinced that the development of an individual and of the humankind (also animal creatures) is an eternal fight for being and continuation, but also internal will to improve. Under the influence of Ch. Darwin, he formulated an active national agenda which was later put into practice in the Sokol. Tyrš has attempted to combine the Schopenhauer's voluntarism with the Darwin's theory of development. This combination should have been dominated by the idea of brotherhood and voluntary disciplines as the fulfilment of ancient Kalokagathia and preparation for the struggle for national existence. Polish authors Drozdek-Małolepsza & Małolepszy (2013, pp. 48-54) write about this aspect of the Sokol message of Tyrš more specifically, but in the wider context of Slavic patriotism. Such a unique combination of two philosophies has brought him to the philosophy of humanism, and not the other way round, as some may assume, to ethnocentrism (Král, 1932).

Tyrš was also inspired by Jahn's German, Turner-like physical education system with a strong military, patriotic, harsh, tough and rough character. Tyrš has taken from Turner physical education only

those items which he considered as positive for physical training, i.e. mainly apparatus gymnastics (Havlíček, 1947, p. 11).

Tyrš built the foundations of his physical education according to the ideals of ancient Greeks and he was inspired by the idea of Hellenism and ancient Olympic Games. In his work *Hod olympický (The Olympic Feast)* he wrote about the sources of ancient Greek physical culture, the meaning of physical exercises and their individual and social application. This work can be considered as one of the first modern expressions of the Olympic thought (Černek, 2008, p. 49).

Hod olympický is according to Hodaň (2003, p. 114) „...the result of the erudition of Tyrš and also of his fascination with the ancient Greece."

Tyrš expressed his admiration for ancient culture and for the Greek ideal of a human being in the above work. This perfect harmony between physical and mental aspect of a human being is an ideal that the human being does not attain, but which she/he seeks by "going along his/her path" (Pačesová and Oborný, 2012, pp. 28-32). The relationship to body and physical culture represented by the ancient Greece has became a model for Tyrš, not only for physical and mental harmonic development of the human being, but most of all, he understood the meaning of the concept of Kalokagathia for wide-ranging social success (Černek, 2008, p. 49).

Tyrš combined, very harmoniously and in a sensible way, the antique ideal of beauty and good with the national program and with the effort to mobilize every Czech (citizen) in the struggle for the implementation of national goals. According to Tyrš, strength and culture are based on the principle of quality, not on the power of extension and quantity. The quality of a nation consists of creating and transforming more than just receiving. Culture therefore consists of creating one's own culture and cultivation in every human being, in everyday life, in inner wealth, in self-sufficiency and independence (Válek, 2003, p. 24).

The overall national profile of citizens, their culture, their identity, their values and their ideals are rooted in the Sokol idea. The Sokol movement can be seen as the way of perceiving and evaluating the world. It is focused on the human being in the ontological sense of word. The Sokol movement and Olympism are, among other things, characterized as an educational, educational and cultural pattern that finds its ideological roots in antique culture. It was similarly expressed by Pierre de Coubertin (founder of the modern Olympics) in his words: "Olympism is not a system, it is a state of mind" (Černek, 2008, p. 48).

According to Hogenová (2003, p. 20): „The home, the origin, is what we carry in our tradition and we need to take care of it. This care in Greek is called Epimeleia (care for the soul) and this care is the care for the spiritual centre. By experiencing physical balance through exercise in a good home environment, this feeling is improved at first, without words, by means of experience, feeling of harmony and order. And that's it! This is the reason why the Sokol is something that does not tend to disappear".

CONCLUSION

Undoubtedly, Tyrš was a well-educated personality (critic and art historian, aesthetician, professor of history, philosopher), pragmatic and acknowledged at national and international level, as evidenced by the expansion of the Sokol movement to other European countries, and countries of the new continent.

The founder of the Sokol understood that the question of freedom is, above all, the question of education, the question of the education of body and spirit – the question of the cultivation of the (Czech) nation. This idea is equally desirable today, at the beginning of the third millennium. It will always be the case that only a society of "good" people (personas) allows the way to progress, democracy and freedom.

Figure 11. The official logo of the Czech Sokol Organization. Česká obec sokolská. Logos for downloads. Retrieved from http://www.sokol.eu/obsah/58/loga-ke-stazeni

The philosophy of Tyrš can be called the "philosophy of action". Tyrš wanted to introduce philosophy to life because his philosophy was different than academic and incomprehensible. He was convinced that *"the role of philosophy is to teach people to act and to think, and not just to believe.* The second task of philosophy is *to lead man to pan-humanity, to civil awareness, to the goal of becoming a cosmopolitan and world citizen".*

Tyrš was and remains the philosopher of historical development, directing human activity to the future in the sense of the human ideals of good, beauty and perfection, the ideal of justice, democracy and harmony, and the Sokol is the embodiment (spiritual and physical) of his philosophy. The Sokol ideology includes a strong link that has been the guide to the positive direction of physical and civic culture also for the generations of the 21st century.

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SHORT HISTORICAL NOTES XII

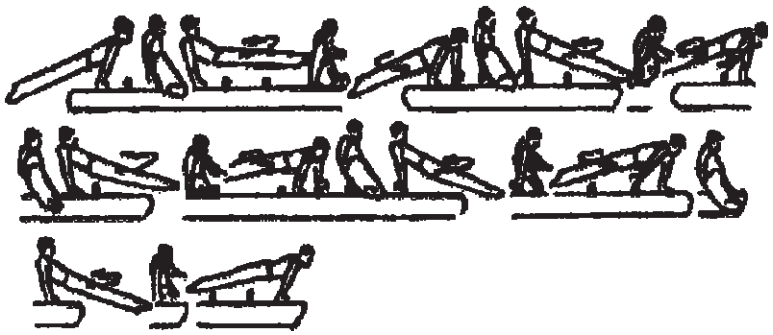
Anton Gajdoš, Bratislava, Slovakia & Michal Babela, Faculty of Physical Education and Sports, Bratislava, Slovakia

Ph.D. Anton Gajdoš born on 1.6.1940 in Dubriniči (today Ukraine) lives most of his life in Bratislava (ex TCH, nowadays SVK). He comes from gymnastics family (his brother Pavel have world championship medals) and he devoted his life to gymnastics. His last achievement is establishment of Narodna encyklopedia športu Slovenska (www.sportency.sk). Among his passion is collecting photos and signatures of gymnasts. As we tend to forget old champions and important gymnasts, judges and coaches, we decided to publish part of his archive under title Short historical notes. All information on these pages is from Anton's archives and collected through years.

ZOLTÁN MAGYAR (born 15.12.1953, Budapest, Hungary)

Zoltan Magyar is probably the most important inventor on pommel horse since Emil Hafner inventor of double leg circles. Even nowadays his two elements: cross support travel from the beginning to the end of horse and spindle are included into each high quality exercise. His elements were also further developed and performed in various beginning and end positions with legs together or split. Even today they belong into group of D elements, what mean both elements are difficult and require high abilities to maintain rhythm and angular velocity to stay on the horse and continue with further elements.

Why was Zoltan such a phenomena on pommel horse? Story goes like: …*behind nine seas, nine mountains and nine rivers there was a very small gym where only pommel horse was possible to work on. Place was even so small, dismount was not possible to perform, and Zoltan who loved gymnastics used all horse in different positions and directions*… Of course this is just a fairy tale, but it is not far from real events, as his coach László Vigh guided him through his career and at the beginning his gym was really not something what we call today gymnastics hall.



Magyar travel (FIG COP MTC, 2013-2016)

Magyar spindle (FIG COP MTC, 2013-2016)

From the 1973 European Championship up to 1980 Olympic Games he always won on major competition like OG, WC and EC. His achievement is astonishing:

Olympic Games

1976 Montreal (Canada)	1st Pommel horse, 4th Team, 9th All Around
1980 Moskva (Russia, ex. Soviet Union)	1st Pommel horse, 3th Team, 9-10th All Around

World Championship

1974 Varna (Bulgaria)	1st Pommel horse, 4th Team, 15th All Around
1979 Strasbourg (France)	1st Pommel horse, 6th Team, 12th All Around

World Cup

1975 London (Great Britain)	1st Pommel horse
1978 Sao Paolo (Brazil)	1st Pommel horse

European Championship	1st Pommel horse
1973 Grenoble (France)	1st Pommel horse
1975 Bern (Switzerland)	1st Pommel horse
1977 Vilnius (Litva, ex. Soviet Union)	1st Pommel horse

Zoltan Magyar in action from last major competition in Moskva, with his sign on photo of unknown photograph.

Slovenski izvlečki / Slovene Abstracts

Boštjan Jakše & Barbara Jakše

ALI JE VEGANSKA PREHRANA PRIMERNA ZA VRHUNSKE TELOVADCE?

Večina znanstvenih dokazov močno povezuje dobro načrtovano vegansko prehrano z zdravjem, uspešnim nadzorovanjem telesne teže, preventivnimi ukrepi pred in v nekaterih primerih s prekinitvijo in ozdravljenjem najpogostejših kroničnih nenalezljivih bolezni, kot so npr. kot bolezni srca in ožilja, sladkorna bolezen tipa 2, nekatere vrste raka in nekatere druge bolezni. Številni športniki so sprejeli te ugotovitve in sprejeli ta način življenja. Poleg tega športniki izberejo dobro načrtovano vegansko prehrano z namenom, da izboljšajo svoje gibalne sposobnosti. Združenje britanskih dietetikov (BDA) in Akademija za prehrano in dietetiko (AND) za vegetarijansko prehrano navajata, da so dobro načrtovane vegetarijanske prehrane, vključno z vegansko prehrano, zdrave in prehransko primerne in primerne za vsa odbobja življenja, vključno z obdobjem nosečnosti, dojenčka, otroka, mladostnika in odraslost. Še več, AND poudarja svoj pogled izpred skoraj desetih let glede primernosti veganske prehrane za športnike. Namen tega članka je utemeljiti ustreznost dobro načrtovane veganske prehrane za potrebe telovadcev.

Ključne besede: veganska prehrana, telovadec, zdravje, telesna masa, gibalne sposobnosti

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Beverley Trevithick, Max Stuelcken, Rebecca Mellifont, Mark Sayers

RAZŠIRJENOST BOLEČINE V ZAPESTJU PRI AVSTRALSKIH TELOVADCIH

Bolečina v zapestju pri mladoletnih telovadcih se običajno šteje za "normalno" posledico športa. Če se bolečina ne upošteva, lahko povzroči poškodbo distalne radialne rastne plošče in posledično dolgoročno neuporabnost zapestja. Pomanjkanje raziskav o razširjenosti bolečine v zapestju pri mladoletnih telovadcih s predhodnimi raziskavami, ki beležijo poškodbe zapestja, so del splošnih statističnih podatkov o poškodbah. Naš cilj je bil raziskati starostno obdobje pri katerem se pojavi bolečina v zapestju pri avstralskih telovadcih. Anketa je bila izvedena pri 10-18 letnih telovadcih. Podatki so bili zbrani na: (i) zgodovinskih izkušnjah bolečine v zapestju (ii) sedanjih bolečinah v zapestju; (iii) vpliv pripomočkov na bolečine v zapestju; in (iv) načine zdravljenja, ki se uporabljajo. Ugotovili smo, da je pri mladoletnih telovadcih skoraj ves čas (92,6%) prisotna bolečina in določili smo obdobje prevlade (70,6%) bolečine v zapestju. Prisotna bolečina ni odvisna od starosti in spola. Pri skupini, ki vadi 1-10 ur na teden so imele ženske precej večjo prevlado bolečine v zapestju ($p = 0,013$) kot moški. Pri skupini, ki vadi 11-25 ur na teden so moški imeli večjo prevlado bolečine v zapestju ($p = 0,005$) in obdobje prevlade ($p = 0,004$). Pripomočki kot so npr. zapestnice so bile označene kot temeljna metoda upravljanja bolečine v zapestju. Ta študija spodbuja raziskovanje strategij za preprečevanje poškodb, katerih cilj je zmanjšati razširjenost bolečine v zapestju in posledično poškodbo zapestja pri mladih telovadcih

Ključne besede: mladoletniki, telovadci, distalna radialna rastna plošča, sile reakcije na tleh, pripomočki

Evdoxia Kosmidou, Evgenia Giannitsopoulou in MiltiadisProios

ALI SO SAMOPODOBA TELESA, ODNOS DO PREHRANE, PRITISK DA SI SUH, INDEKS TELESNE MASE, VADBA IN STAROST MEDSEBOJNO POVEZANI PRI RITMIČARKAH?

Ritmičarke sodelujejo in tekmujejo že od otroštva in adolescence. Namen te študije je bil preučiti razmerje med samopodobo telesa, prehranjevanjem, zaznanim pritiskom trenerjev, staršev in prijateljev da si suh, indeksom telesne mase (BMI) in starosti ritmičark. Merjenke je sestavljalo oseminštiridesetih ritmičark (49 dejavnih in 34 bivših). Izpolnile so vprašalnike, ki so ocenili demografske in osebne značilnosti, poglede na lastno telo, globalne prehranjevalne navade in pritisk vaditeljev, staršev in prijateljev da so bolj suhe. Rezultati so pokazali, da je samopodoba telesa znatno napovedana s pritiskom staršev, BMI in starostjo pričetka vadbe. Tudi nekdanje ritmičarke so imeli bolj pozitivno samopodobo telesa in prehranjevanja kot sedanji ritmičarke, ki pa so se počutile bolj pritiski, da morajo biti suhe. Rezultati te študije dajejo več predlogov za nadaljnje delo z ritmičarkami.

Ključne besede: ritmika, samopodoba, pritisk da si suh

Miriam Kalichová, Petr Hedbávný, Petr Dolana

ZNAČILNOSTI VZDOLŽNEGA STOPALNEGA LOKA PRI ORODNIH TELOVADKAH

Namen študije je bil ugotoviti značilnosti dolgega stopalnega loka orodnih telovadk in ugotoviti, katere značilnosti so povezane. Izmerjenih je bilo 52 orodnih telovadk visoke kakovosti. Izvedene so bile meritve s pomočjo plošče Emed ter rezultati ovrednoteni s pomočjo metode Chippaux-Šmiřák, in ocenjeni v skladu z normami Klementa. Pri 89 izmerjenih stopalih od 104 je bil zaznan visok vzdolžni lok. Od 89 jih je bilo 5 nekoliko povečanih, 14 srednje velikih in 70 zelo visokih. Preostalih 15 stopal je imelo normalni vzdolžni lok. Z izračunom Pearsonovega korelacijskega koeficienta smo ugotovili, da se s trajanjem staža telovadbe zmanjša višina stopalnega luka ($r = 0,47$), lahko pa so tudi posledica povečanje indeksa telesne mase BMI ($r = -0,51$) med odraščanjem. Med prevladujočo in podrejeno nogo ni ugotovljenih značilnih razlik ($p = 0,44$). Na podlagi rezultatov priporočamo, da se vključijo dodatne vaje, katerih cilj je raztezanje stopalnih upogibalk

Ključne besede: orodna telovadba, ženske, stopala, Emed, Chippaux-Šmiřák

Konstantina Papia, Gregory C. Bogdanis, Argyris Toubekis, Anastasia Donti, Olyvia Donti

ENKRATNI UČINKI PODALJŠANEGA STATIČNEGA RAZTEZANJA NA MOČ ODRIVA IN OBSEGA GIBANJA PRI MLADIH ORODNIH TELOVADKAH

Raziskovane so bile spremembe v višini skoka iz proti gibanja (CMJ) in obseg gibanja kolka in kolena (ROM) po enkratnem podaljšanem statičnem raztezanju. Devetnajst telovadk splošne vadbe (starost: 9,8 ± 0,5 let, staž: 2,5 ± 1,5 leta, telesna višina: 135,0 ± 7,3 cm, telesna masa: 33,4 ± 6,9 kg) so izvedle 90 sekund dolgo statično raztezanje stegenske štiri glave mišice. Izvedeno je bilo enonožno raztezanje in skakanje, pri čemer je nasprotna noga služil kot nadzor. Meritev CMJ za raztegnjeno in nadzorno nogo ter sonožni CMJ so bile izvedene po ogrevanju in 2 min po raztezanju. ROM raztegnjene noge je bil izmerjen pred in po raztezanju. Višina CMJ z enonožnim odrivom je ostala nespremenjena tako za raztegnjeno (pred: 7,4 ± 1,7, po: 6,9 ± 1,8 cm) in nadzorno nogo (pred: 7,0 ± 1,7, po: 6,7 ± 2,1 cm), kar kaže pomanjkanje učinkov časa (pred: po; p = 0,278), noge (raztegnjena proti nadzorni nogi: p = 0,207) in medsebojnega vpliva (p = 0,444). Tudi sonožni CMJ je ostal nespremenjen (pred: 16,9 ± 3,1, po: 16,3 ± 3,4 cm, p = 0,186). Po raztezanju se je zvišal obseg kota v kolku (pred: 16,3 ± 3,7, po: 18,2 ± 4,2°, p = 0,002), medtem ko je obseg kota kolena skupaj ostal nespremenjen (pred: 26,6 ± 2,7, po: 25,9 ± 3,0°, p = 0,218). Dolgotrajno statično raztezanje povečuje obseg gibanja, vendar nima učinka na CMJ pri zelo mladih gibljivih telovadkah

Ključne besede: mladinski športi, gibljivost, mišična moč, ogrevanje, telovadba

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Dimitrios C. Milosis, Theophanis A. Siatras, Kosmas I. Christoulas, Dimitrios A. Patikas

RELATIVNA IN ABSOLUTNA ZANESLJIVOST IZOMETRIČNE IN IZOKINETIČNE MERITVE NAJVEČJEGA NAVORA TER RAZMERJA MED UPOGIBALKAMI IN IZTEGOVALKAMI RAMENA PRI TELOVADCIH

Za uspeh morajo telovadci imeti veliko moč v ramenih, vendar je malo raziskav preučilo izometrični in izokinetični navor v ramenu ter razmerje upogibanja/iztegovanja. Namen te študije je bil ovrednotiti relativno in absolutno zanesljivost izometričnega in izokinetičnega navora ter razmerja upogibalk/iztegovalk ramena. Petnajst telovadcev (starost: 19,3 ± 2,3 let) je bilo dvakrat merjenih z eno tedenskim intervalom med meritvami z izokinetičnim silometrom Humac Norm 770 pri treh kotih (45°, 90° in 135°) za izometrično in pri treh kotnih hitrostih (60°/s, 180°/s in 300°/ s) za koncentrični in ekscentrični način delovanja. Vse meritve so bile izvedene v razponu gibanja od 10 ° do 180 °, v položaju dlani zasuka ven, soročno, pri čemer so se komolci popolnoma iztegnjeni. Ne glede na majhno sistematično pristranskost (zaradi merjenja/učenja) od prve do druge pri štirih parametrih, rezultati kažejo na primerno zanesljivost meritev. Relativne (a) in absolutne (b) vrednosti zanesljivosti so bile naslednje: (a) medvrstni korelacijski koeficient (ICC) 0,73 do 0,96 in (b) standardna napaka merjenja (SEM) (%) (izračunano z uporabo ICC) 3,4 do 11,2 %, najmanjša zaznavna sprememba (MDC) (%) 10,7 do 31,1%, SEMe (%) (izračunano s srednjo kvadratno napako) 0,1 do 23,4%, MDCe (%) 1,6 do 48,8% in koeficient variacije (CV)) od 8,6 do 17,8%. Bland-Altman je pokazal, da je bila pristranskost manjša od 10% in da so bile mejne vrednosti skladnosti (LOA) nižje od 35%. SEMe (%) in MDCe (%) so veljali za pomembnejše in pomembne za odkrivanje morebitnih sprememb med dvema meritvama ali za odkrivanje mišičnih neravnovesij.

Ključne besede: zanesljivost, ramena, izokinetika, upogib/izteg, telovadba

Melanie Mack, Linda Hennig in Thomas Heinen

TEMELJNA GIBANJA ZA IZVEDBO PREMETA NA PRESKOKU

Večina raziskav kinematičnih značilnosti gibanj telovadbe se osredotoča le na izbrane spremenljivke, medtem ko mnogokrat spregleda celostno naravo gibanja. Cilj raziskave je bil razviti izboljšan pristop razčlenitve premeta naprej na preskoku. Pri razčlenitvi so bile izbrane spremenljive in nespremenljive značilnosti gibanja. Izmerjenih je bilo 6 ponovitev premeta naprej na preskoku za vsako od desetih telovadk. Časovne značilnosti šestih sklepov so bile razvrščene v nadrejene skupine glede na povprečne vrednosti. Izračunana je bila tudi mera spremenljivosti. Rezultati so pokazali, da obstajajo štiri skupine temeljnih gibanj pri skoraj vrhunskih telovadkah. Gibanje znotraj temeljnega gibanja je bolj medsebojno bolj podobno kot medsebojna temeljna gibanja. Temeljna gibanja so določena s spremenljivimi in nespremenljivimi značilnostmi, ki jih najbolj določata sprememba kota v ramenu in kolku v času, kakor tudi razmerje spremenljivosti teh spremenljivk. Glede na vadbo, raziskava pokaže na pomemben vpliv značilnosti in sposobnosti posamezne telovadke, še posebej ko prihaja do učenja gibanja in izboljšanju gibanja.

Ključne besede: kinematika, skupine, temeljni vzorci gibanja, spremenljive in nespremenljive značilnosti

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Anja Šešum, Tanja Kajtna

UPORABA SLUŠNO VIDNE SPODBUDE PRI UČENJU TELOVADNIH PRVIN

Danes se več ljudi zaveda težav pri doseganju zastavljenih ciljev in v želji, da bi izboljšale svojo učinkovitost, se pogosto obračajo na različne postopke, ki jim pomagajo uresničiti svoje cilje. Na trgu so številne storitve, metode, izdelki in stroji, ki zagotavljajo in obetajo boljše rezultate. Namen te raziskave je bil proučiti vpliv slušno vidne spodbude (v nadaljnjem besedilu: AVS), ki ji sledi predstava telovadnih prvin ter izboljšanje učinkovitosti izvedbe le-teh. Sodelovalo je 39 študentov prvega letnika Fakultete za šport v Ljubljani, ki so se udeležili predmeta Orodna telovadba 1, od tega jih je bilo 19, ki so bile v poskusni skupini, in sicer dvakrat na teden, ostali v nadzorni skupini. Pričakovali smo, da bodo AVS pozitivno vplivali na učenje gibanja telovadnih prvin. Skozi študentsko izvedbo prvin je bilo ugotovljeno, koliko študentov se je izboljšalo od prve učne ure do ocene. Za AVS se je uporabila naprava "Therapeut", kjer so bili študenti pod vplivom 11-minutne vadbe, ki je spodbudila alfa in beta možganske valove, ta vadba pa naj bi ohranila študente sveže in ustvarjalne. Uporabili smo merilce za določanje srčnega utripa in nasičenosti krvi, glasbo in vprašalnik z merilom za določanje dobrega počutja. Spremljali smo napredek učenja gibanja telovadnih prvin, padca srčnega utripa ter spremembe nasičenosti in dobrega počutja. Nobeni rezultati v opazovanih spremenljivkah niso pokazali, da smo vplivali na izboljšanje, naša študija pa ni pokazala vpliva AVS na izboljšanje opazovanih spremenljivk

Ključne besede: slušno vidna spodbuda, učenje gibanja, predstava, srce.

Athanasia Papia, Gregory C. Bogdanis, Nikolaos Apostolidis, Olivia Donti

SKOČNOST NIMA VISOKE NAPOVEDNE VREDNOSTI NA SPOSOBNOST SPREMEMBE SMERI IN HITREGA TEKA PRI MLADIH ORODNIH TELOVADKAH

Ta študija je preučila povezavo med uspešnostjo skakanja, spremembo smeri in sposobnostjo hitrega teka pri mladoletnih telovadkah. Sodelovalo je 50 telovadk splošne vadbe (starost: 8,0 ± 0,7 let, staž: 2,2 ± 0,8 leta, telesna višina: 129,3 ± 6,6 cm, telesna masa: 28,1 ± 5,8 kg). Izmerjene so bile vrednosti sonožnega in enonožnega navpičnega skoka s proti gibanjem, globinski skok, skok iz polčepa, skok v daljino, hitri tek na 10 in 20 metrov in dve meritvi teka s spremembo smeri 10 m (5 + 5 m z obratom 180 °) in 20 m (10 + 10 m z obratom 180). Med preučevanimi spremenljivkami so bile ugotovljene pomembne povezave, vendar so večkratne napovedne razčlenitve pokazale, da rezultat skakanja predstavljal majhno količino pojasnjene spremenljivosti spremembe smeri (18,4 do 27,1%) in preskusov sposobnosti hitrega teka (22,6 do 29,3%). Nadaljnje raziskave so potrebne, da bi razložili, ali dolgoročna vadba vpliva na povezavo med uspešnostjo skakanja in spreminjanja smeri ter hitrega teka pri moških in ženskah različnih starosti in stopnje uspešnosti.

Ključne besede: otroci, mišična moč, pospešek, telovadba.

Nika Šuč, Marko Weissenstein, Blaž Lešnik

POVEZANOST MED USPEŠNOSTJO IZVEDBE TELOVADNIH PRVIN IN ALPSKIM SMUČANJEM PRI MLADIH SLOVENSKIH SMUČARJIH

Tekmovalno alpsko smučanje in orodna telovadba pripadata raznovrstnim športom. Ena od razlik med njimi so pogoji, pod katerimi se izvajajo. Zunanji pogoji pri orodni telovadbi so stalni, v alpskem smučanju se spreminjajo. Zaradi velikega vpliva orodne telovadbe na razvoj gibalnih znanj se ta šport uporablja kot sredstvo za telesno pripravo mladih alpskih smučarjev. Cilj te študije je bil ugotoviti, ali obstaja povezava med izbranimi telovadnimi prvinami in uspešnostjo mladih alpskih smučarjev, starih od 14 do 15 let. Vzorec spremenljivk je obsegal oceno osmih prvin in skupno vsoto oceno. Neodvisna spremenljivka je predstavlja točke, dosežene v pokalu za Veliko nagrado Mercatorja. Vzorec je sestavljalo 34 smučarjev, 22 fantov in 12 deklet, ki so tekmovali v eni sezoni. Pri fantih se je pokazalo, da so uspešnejši alpski smučarji tisti, ki so tudi uspešnejši pri izvedbi prvin orodne telovadbe in sicer imajo uspešni smučarji boljše ocene štirih prvin in skupno oceno. Pri dekletih so sicer uspešnejše alpske smučarke tiste, ki so boljše pri eni prvini orodne telovadbe, ni pa pomembno celotno znanje orodne telovadbe.

Ključne besede: alpsko smučanje, akrobatske prvine, starejši fantje in dekleta.

Mauricio Santos Oliveira, Marco Antonio Coelho Bortoleto, Myrian Nunomura

JEZIK PRI ORODNI TELOVADBI: ZAPISKI O ŽARGONU

Članek predstavlja in pojasnjuje leksikon orodne telovadbe, skozi študij pogovorov med gimnazijkami – vrhunskimi telovadkami na športni gimnaziji. Razčlenitev izrazov sporazumevanja, ki jih uporabljajo učitelji in telovadke, predstavlja bodočo zasnovo leksikona dediščine telesne kulture. Rezultati kažejo, da izrazi in njih pomen, poseben za orodno telovadbo, izražajo zgodovinsko in kulturno pogojene lastnosti, v nekaterih primerih spreminjajoč meje tega športa, ko se vkopi v družbo.

Ključne besede: leksikon, sporazumevanje, telesna kultura, telovadba

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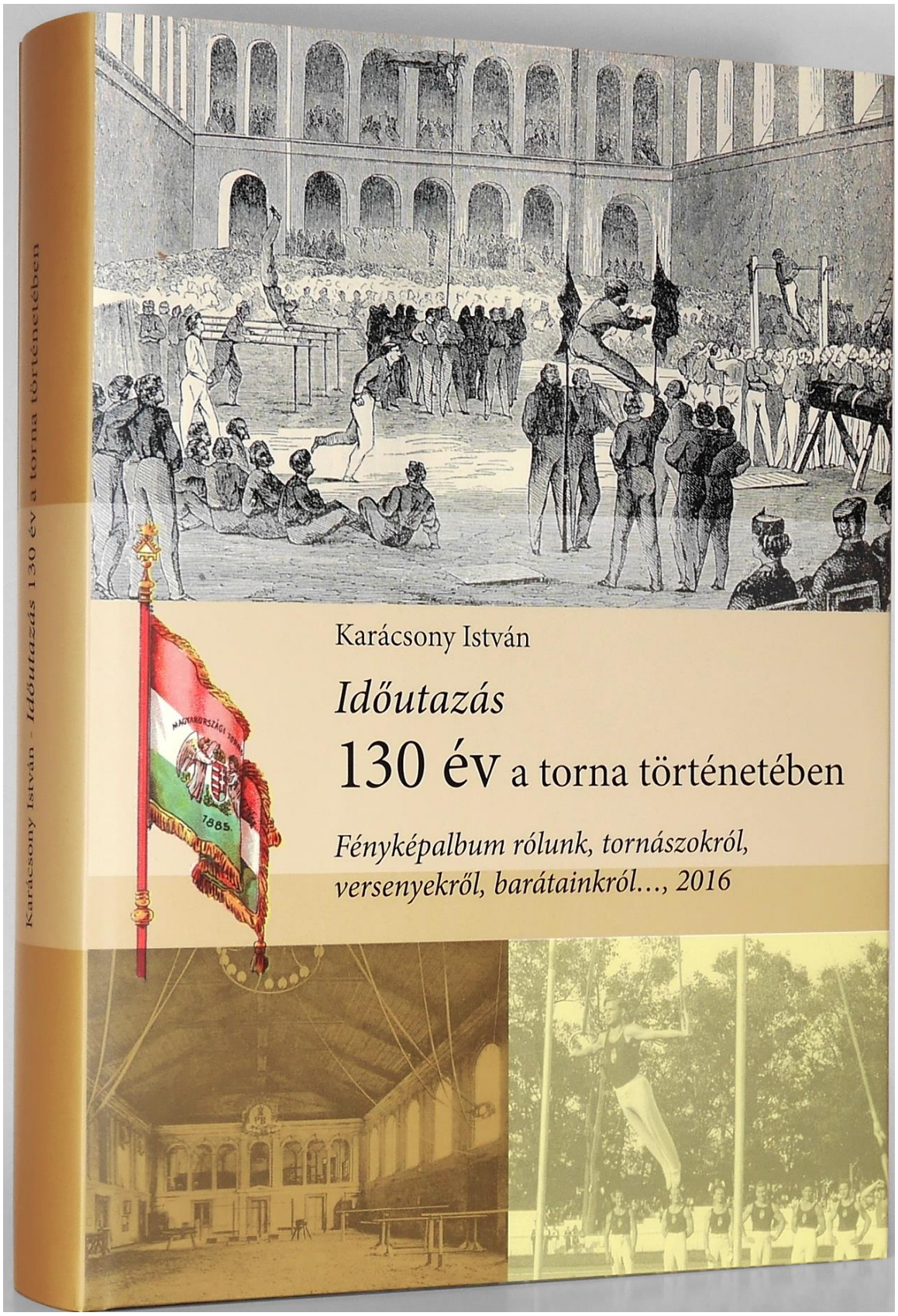
Michal Bábela, Josef Oborný

DR. MIROSLAV TYRŠ - OČE SOKOLA IN NJEGOVE FILOZOFIJA

Namen članka je predstaviti celostno podobo češkega filozofa, umetnostnega zgodovinarja in ustanovitelja Sokola na območju Bohemije - Miroslava Tyrša. Članek je sestavljen iz dveh delov. V prvem delu je opisano osebno življenje Miroslava Tyrša in njegovih ključnih nalog in aktivnosti znotraj gibanja Sokol v Pragi in celotnega sokolskega gibanja. V drugem delu je opisana filozofija Sokola, osredotoča na kratek pregled ideološkega koncepta filozofije Sokola. V tem poglavju je navedena in razjasnjena glavna Tirševa filozofska podlaga v pojmovanju telesne vzgoje, ki je imela in še vedno ima veliko ideološko vrednost ne le na področju telesne vzgoje.

Ključne besede: Miroslav Tyrš, Sokol Praga, filozofija


Karácsony István - Időutazás 130 év a torna történetében
Karácsony István
Időutazás
130 év a torna történetében
Fényképalbum rólunk, tornászokról,
versenyekről, barátainkról..., 2016
1885

In last issue of Science of Gymnastics Journal we introduced new book from István Karácsony 130 Years of Hungarian Gymnastics Federation. As book is completely written in Hungarian langugae, István prepared for our readers very short main content from the book.

HISTORY OF THE 130 YEARS OLD HUNGARIAN GYMNASTICS

Till the Foundation of the Hungarian gymnastics Federation

In the Anjou area from 1300 to 1380 the very popular tournaments show some specific gymnastic movement. Foreign tutors came to Hungary thought sport principles according to the Romans to the youth. The famous Czech pedagogue Comenius Amos who lived in Hungary in his work the Orbis Pictus suggested that playing grounds and playing time is needed for the youth. The system developed by the German Guts-Muts and Jahn had a great influence in Hungary. We have to mention the exquisite Swiss pedagogue Pestalozzi and the Swedish Henrik Ling and his sons; their work had great influence on the Hungarian gymnastic system. The aim of gymnastics in these times was to entertain the public. In the autumn of 1830 in Budapest and exercising Institute was founded but it's served only for the gymnastics of children after two decades it closed its doors. In 1883 a magazine for the gymnastics was started called "Tornaügy" which was a monthly issue. In 1863 the national gymnastics Society was founded It was the ancestor of the Hungarian gymnastics Federation. This was the real Foundation of the Hungarian gymnastics Sport and following it gymnastics clubs were founded in several cities.

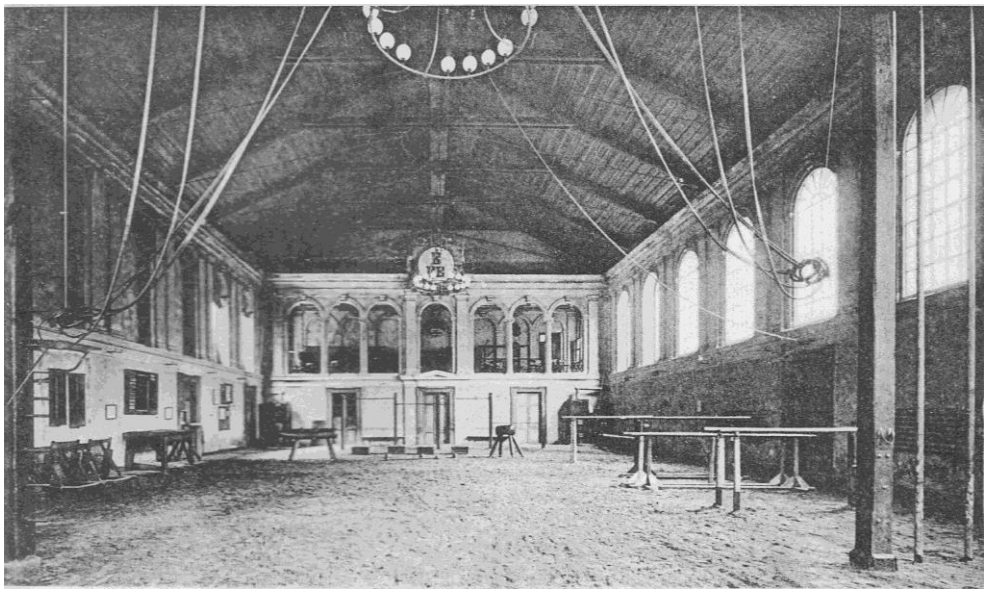


Figure 1. The national gymnastics Society started Seminars for the Education of the gymnastic teachers in 1870. During the next few years they featured more than 800 certified gymnastic teacher and they could take the Lead of the gymnastics clubs

Baron Joseph Eötvös the minister of education wrote a public education Act in 1868 which made the physical education obligatory in every Hungarian School. In 1870 Emerged the week for the gymnastic clubs to have acorn Federation which real move the gymnastics education

forward in Hungary. On the 28th of June in 1885 the Hungarian gymnastics showed publicly at the first time.

Figure 2. On the 29th of June in 1885 the Hungarian gymnastics federation was founded. The first president was Sándor Hegedűs, an excellent gymnast

In the following years more and more clubs joined the Federation and so in 1891 it has 44 members. According to the rules of the Federation in every three year a new president of board was elected.

The year of 1896 was the millennium of the state foundation in Hungary the national gymnastics celebration was held in such a way that it suited in the National celebration.

First time at the Olympics

In 1896 at the first modern Olympic Games the Hungarian men's gymnastics team participated at the competition in Athene among the 13 Nations.

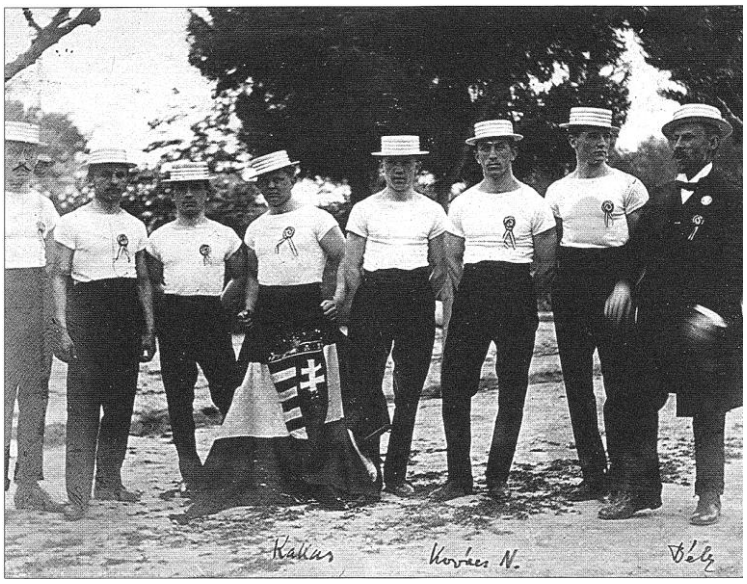


Figure 3. The Hungarian team finished at the seventh place.

In 1898 the Hungarian gymnastics federation became a member of the international Gymnastics Federation it was cold in the day is European gymnastics Federation.

The members of the gymnastics clubs made other sports as well for example athletics fencing swimming skating.

Figure 4. The first logo of the Hungarian gymnastics Federation

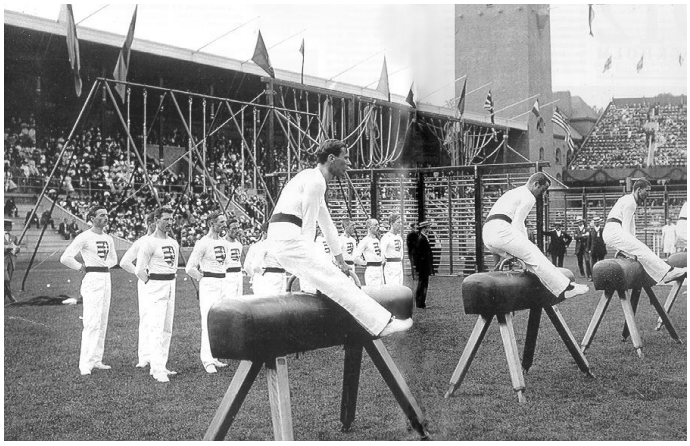


Figure 5. The team pommel horse routine of the Hungarian team participating at the Olympics in Stockholm in 1912.

From the losses of the world war to the first Olympic gold medal

During the First World War the equipment of the gymnastics was greatly damaged because the most of the gymnastics holes was used to military purposes Only the walls and the enthusiasm of some self-sacrificing professional remained. After 1914 national championships could not be organized. From 1920 Mr. János Kmetykó and Rezső Bábel started to organize the Hungarian gymnastics and the national team. The biggest gymnastics clubs held gymnastics shows. The greatest event of 1925 was the foundation and opening of the Hungarian Physical Education University. Later the deservedly world famous university became the central of the education of the physical education teachers and professionals

Figure 6. The logo of the University Physical Education

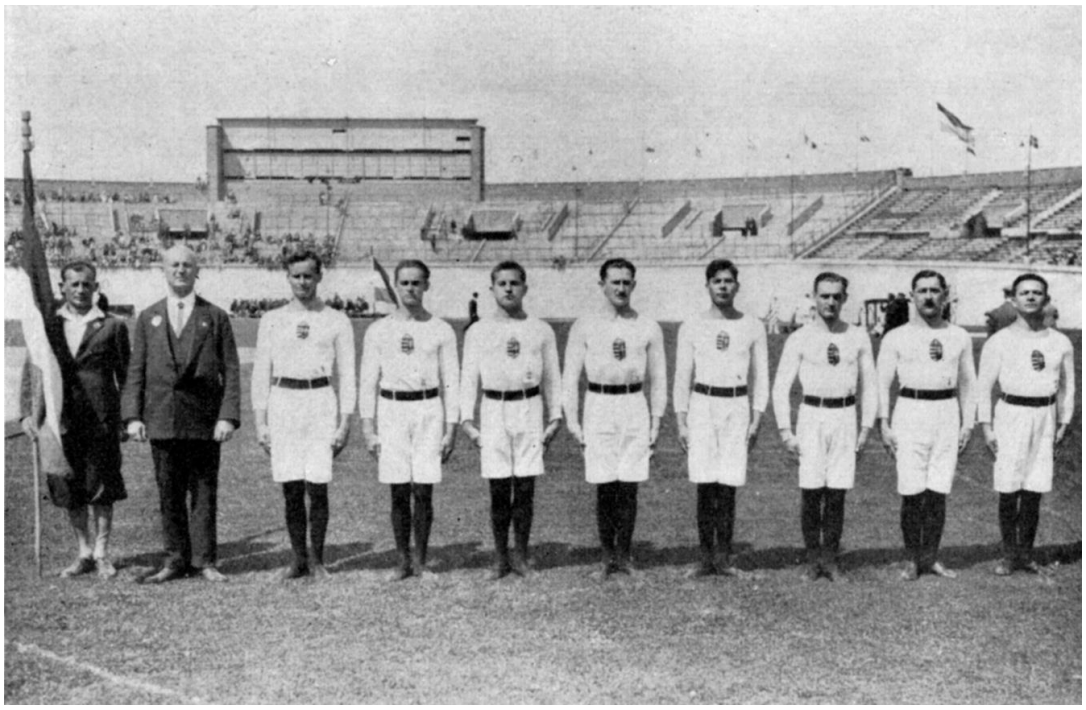


Figure 7. Amsterdam Hungarian men's gymnastics national team

The gymnasts had to make oath to the president of the Federation, that they will participate at the training, live a sportsmanlike life and obey the rules. In the last three months before the Olympics there were trials, where the best 8 gymnast was selected to represent Hungary. In 1930 won the world championships in Luxembourg Mr. Istvan Pelle with the maximum points one the world champion title. To develop gymnastics in the country the Federation issued regional organizational rules, and wrote out the individual and team National championship for women. In this year the number of the men's gymnast was nearing 700 and for the women's almost 300. With the modification of the qualification of the gymnasts and the enlargement of the competition program the federation could develop the gymnastics further in Hungary According to the traditions almost every gymnastic club organized its own gymnastic show and so they could prove the professional work in the club As for the military gymnastics, the army organized its own closed gymnastic competition where soldiers represented in a great number.

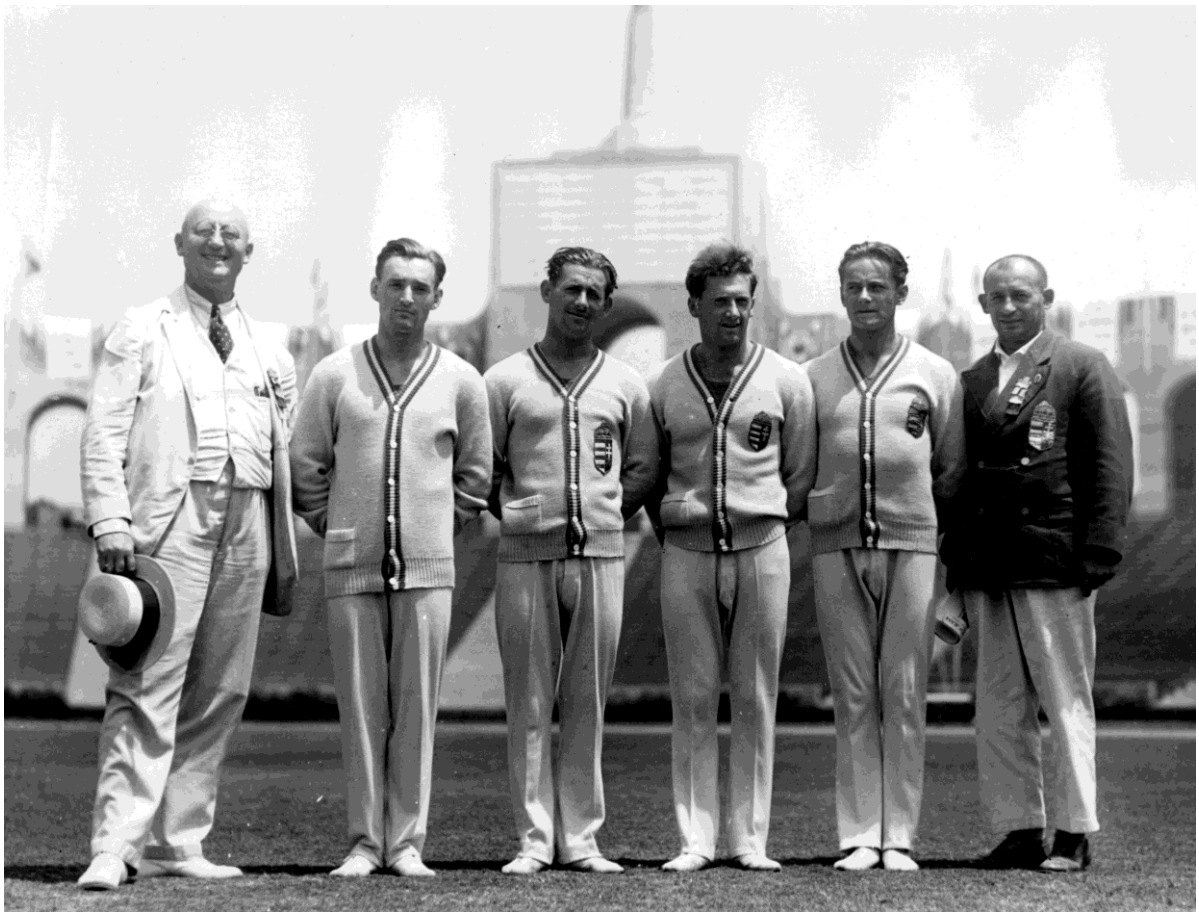


Figure 8. The year of 1932 brought the greatest success in the Hungarian gymnastics. At the Olympic Games in Los Angeles, Istvan Pelle won the first gold medal for Hungarian gymnastics in the Olympic Games.

Figure 9. István Pelle the 1st Hungarian Olympic gold medalist on the pommel horse

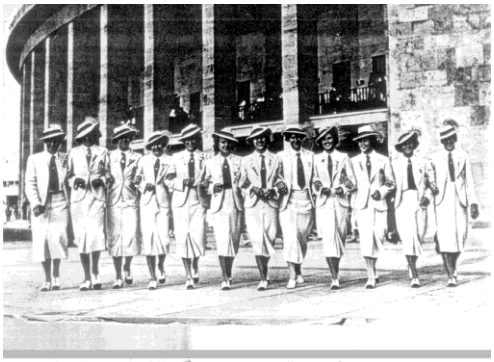
The public welcomes the gymnasts return from the Olympic Games with great enthusiasm in Budapest. The governor of Hungary Also awarded István Pelle for his success. Hungary organizes its first World Championship In 1934 Hungary applied for the organization of the word championship and won. At the FIG congress, held before the championship, Mr János Krizmanics was elected to the technical committee. He was the member of the committee till 1938, and was the first Official in the FIG from Hungary.

Figure 10. Session of the Hungarian Parliament

Accepting the proposal of the judges commission the Federation allowed two write the most important rules in the code of points, and with this make the work of the judges easier. The code of points said that everyone have to participate at the judges course before becoming a judge. The strict rules said that the judge must be minimum 26 years old and demanded at least four years activities in gymnastic. The Hungarian gymnastics federation had 45 first and 33 second category judges. The delegation of the judges for each competition was decided at the session of the judges committee. 1934 was the year of the world championships. The competition was held at the BESZKÁRT field where 13 Nations represented themselves with their best gymnast. Awarding ceremony of the women's team competition on the second place Hungary

Figure 11. The organizing committe of the world championships in Budapest in 1934

In 1935 the Hungarian gymnastics federation celebrated the 50th anniversary of its existence, with the 13th National gymnastic show. At the celebration prince Joseph Franz also made his appearance. In his speech in front of the General Assembly he remembered from the last 50 years the struggle and the glory. At the Olympic Games in 1936 in Berlin the achievement of the men gymnasts was far from the expectations. At this Olympic Games at the first time the women's artistic gymnastics was in the program. The national team from Hungary finished on the 3rd place which was a pleasant surprise. Awarding ceremony of the women's team competition, on the third place Hungary



"The Hungarian women's team made such a good impression with its appearance; they gained such a big applause, similar of the one, gained by the hosting German Federation. And after the exercise of the 8th slight figure in bone colored uniforms the big ovation could be heard again. The routine of the Hungarian girls was difficult and womanly. After the balance beam routines 20000 people clapped their hands for long minutes."

Figure 12. First time at the Olympics the Hungarian women's team reached bronze medal

A new start and it's not bad

In 1945 the gymnastic live slowly revived in Budapest and in the country. The government founded the Olympic training camp in Tata, which was the Central preparation camp for many Olympics and world championships. After the Second World War, the first Olympic Games were held in London, in 1948. It was a big success for the Hungarian gymnastics. A gold medal for Ferenc Pataki, second place for the women's team and third plays for the men's team. The original element from Ferenc Pataki, stretched salto backward to standing scale, was an unique movement, nobody else could do that. Men's team: 3. Hungary Women's team: 3. Hungary

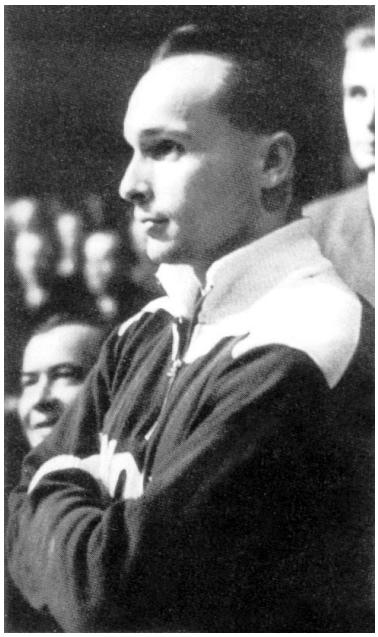


Figure 12. Individual championship was held only by the men. Ferenc Pataki won Olympic championship in the floor exercise.

Figure 13. Big success in the sport diplomacy. Mrs. Rudolf Herpich was elected to the FIG women's technical committee. She represented the Hungarian gymnastics from 1948-72 as a member later as the president of the committee. The multilingual Sport diplomat participated at 11 Olympics.

The national team prepared for the 1952 Helsinki Olympic Games in the training camp in Tata. At this time the trainings were outdoor.

The Olympic champion title was shared by the Soviet and Hungarian gymnast. Here was individual competition for the women's at the first time. The Swinging ring was cancelled from the program instead of it, the women exercised on the uneven bars. Margit Korondi won the first Hungarian gold medal in Helsinki on the uneven bars. The women's team won silver medal in Helsinki as well as in London.

Figure 14. Margit Korondi won the first Hungarian gold medal in Helsinki on the uneven bars

The first word championship for university students without track and field events in the program was organized In 1954 in Budapest. The Hungarian teams both men and women won the first place.

Figure15. In 1954 in Rome at the world championships the women's combined exercise team won the first place.

This year in October was the Revolution in Hungary. The civil war demanded many victims and caused troubles in the preparation of the athletes.

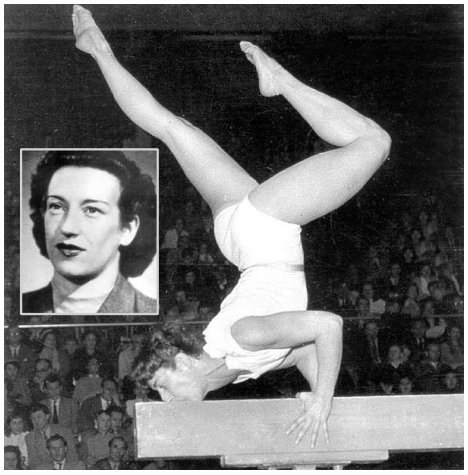


Figure 16. In 1956 at the Olympic in Melbourne the combined exercise team from Hungary won gold medal. Agnes Keleti became Olympic champion on the uneven bars on the balance Beam and in floor exercise.

The Olympic champion combined exercise team from Hungary: Olga Tass, Ágnes Keleti, Margit Korondi, Andrea Bodó, Alice Kertész, Erzsébet Gyulyásné Köteles.

Among many other athletes four women and one man gymnast did not return to Hungary. The five time Olympic champion Agnes Keleti migrated to Israel where she worked as coach and later as sports leader of the Israeli gymnastics. Margit Korondi and Andrea Bodó migrated to the USA.

Hungarian Olympic, World and European Champions

Olympic Champions			**World Champions**			**European Champions**		
Champion	City	Discipline	Champion	City	Discipline	Champion	City	Discipline
Pelle István	1932. Los Angeles	Floor	Pelle István	1930. Luxemburg	High Bar	Magyar Zoltán	1973. Grenoble	Pommel Horse
Pelle István	1932. Los Angeles	Pommel Horse	Women Team	1954. Róma	Team Combined Ex.	Magyar Zoltán	1975. Bern	Pommel Horse
Pataki Ferenc	1948. London	Floor	Keleti Ágnes	1954. Róma	Uneven bar	Magyar Zoltán	1977. Vilnius	Pommel Horse
Korondi Margit	1952. Helsinki	Uneven Bars	Magyar Zoltán	1974. Várna	Pommel Horse	Guczoghy György	1979. Essen	Pommel Horse
Keleti Ágnes	1952. Helsinki	Floor	Magyar Zoltán	1978. Strassbourg	Pommel Horse	Guczoghy György	1981. Róma	Pommel Horse

Women Team Kertész, Köteles, Korondi, Bodó, Keleti, Tass	1956. Melbourne	Team Combined Ex.	Magyar Zoltán	1979. Fort Worth	Pommel Horse	Guczoghy György	1983. Várna	Pommel Horse
Keleti Ágnes	1956. Melbourne	Uneven Bars	Borkai Zsolt	1987. Rotterdam	Pommel Horse	Borkai Zsolt	1985. Oslo	High Bar
Keleti Ágnes	1956. Melbourne	Beam	Ónodi Henrietta	1992. Párizs	Pommel Horse	Ónodi Henrietta	1989. Brüsszel	Uneven Bars
Keleti Ágnes	1956. Melbourne	Floor	Csollány Sz.	2005. Debrecen	Rings	Supola Zoltán	1992. Budapest	P.Bars
Magyar Zoltán	1976. Montreal	Pommel Horse	Berki Krisztián	2010. Rotterdam	Pommel Horse	Varga Adrien	1998.Saint-Petersburg	Vault
Magyar Zoltán	1980. Moszkva	Pommel Horse	Berki Krisztián	2011. Tokió	Pommel Horse	Csollány Szilveszter	1998.Saint-Petersburg	Rings
Borkai Zsolt	1988. Szöul	Pommel Horse	Berki Krisztián	2014. Nanning	Pommel Horse	Berki Krisztián	2005. Debrecen	Pommel Horse
Ónodi Henrietta	1992. Barcelona	Vault				Berki Krisztián	2007. Amszterdam	Pommel Horse
Csollány Sz.	2000. Sydney	Rings				Berki Krisztián	2008. Lausanne	Pommel Horse
Berki Krisztián	2012. London	Pommel Horse				Berki Krisztián	2009. Miláno	Pommel Horse
						Berki Krisztián	2011. Berlin	Pommel Horse
						Berki Krisztián	2012. Montpellier	Pommel Horse

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