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DIRECTING THE PROCESS OF TRAINING, TAKING COMPETITION AND AN ATHLETE'S PERSONALITY DIMENSIONS AS A MODEL

"Time and quality of work will provide better results than selection based on any champion profile; we don't select champions, they select themselves by work, passion and determination to achieve the highest results."

Janusz Bednarski

At the beginning of modern competitive sport, training was very simple. Athletes trained two or three times a week and hoped for the best. Any improvement in technique or motor abilities (quite often accidental) led to improvement of results.

With the increasing role and frequency of competitions, the intensity and frequency of practice increased and the first attempts to programme, direct and control the process of training were gradually introduced.

To begin with, the control of training was very simple and took the form of comparing the training—its intensity, frequency, contents—with the results achieved in competitions (fig. 1).

This simple comparison between the character and amount of training and the sports results gave a little information but not nearly enough to adequately improve and control training. It was difficult to assess the precise correlation between the contents and intensity of training and the athlete's results in competitions. It was particularly difficult to elucidate the hidden factors which led to better or poorer results. Among other things it was quickly noticed that the same amount and intensity of training produced quite different results among various athletes.

So the next step in improving the process of training and searching for the factors responsible for results was: 1) analysing the process of training (choice of exercises and the way of conducting them, frequency and intensity of training); 2) the form of the athlete (his capacity for effort, his speed, endurance and strength, and his technique and tactical abilities etc.); 3) results obtained in competition (fig. 2).

This was a big step forwards and enabled the coach to prepare more detailed plans, to control and conduct training. Many factors, the component parts of an athlete's form, directly or indirectly influencing competition results, came to light. Many tests evaluating the physiological state, level of motor possibilities, psychomotor abilities, technique and tactics were introduced.

Not long ago, a "model of champion" (champion profile) began to be widely used as a basis for diagnosis and prognosis concerning future achievement, selection of candidates, programming, and directing and controlling the process of training.

At the base of the champion profile conception is very simple reasoning: if we know what the champion is like, how he developed throughout the years of training, what his chief characteristics are (body build, weight, height, speed of reaction, etc. etc.), all we have to do is to find the "proper" young person, make a detailed plan of training and try to achieve all of the characteristics of the ideal model. Control of training then consists of comparing, at each stage of training, the young athlete with the model champion.

It seems so logical and obvious—especially in "simple" sports (one motor skill, one dominant motor quality)—that this conception became very popular. Soon it became "fashionable" to construct various model champions for various disciplines of sport, including the most detailed characteristics—even down to the arching of the foot.

Of course, it has been much easier to construct model champions in simple sports (track and

field events, swimming, rowing, etc.) than in more complicated sports (fencing, tennis, team games, etc.). But even in very complicated sports, in which so many different factors affect the results in competition, attempts were made to construct champion profiles. Some Soviet authors went so far as to prepare an amazingly detailed model of a champion in fencing, giving all parameters separately for foilists, sabreurs, epeeists, and lady foilists. What is more, they gave detailed figures of various parameters which the representatives of various weapons should achieve each year in a four-year training plan. Those parameters included the times of various kinds of reaction (simple reaction, choice reaction, change of reaction) while executing an action. In differentiating between fencers with different weapons, they failed to notice the importance of the stimuli to which fencers react. It is well known that the fastest reaction is to mixed stimuli (epee), less fast to tactile stimuli (foil), and slowest to visual stimuli (sabre). There are many other drawbacks to this model which I shall discuss later on.

The champion model has a certain value in the preliminary selection, planning, conducting, and controlling of the processes of training in some sports, especially when there is one main factor or very few factors playing an important role (for example, various manifestations of speed in sprints, a high capacity of the pulmonary and cardiovascular systems in long distance running, etc.) or when one factor seems indispensable (e.g., height in basketball).

Personally, for many years I have had great doubt about the over-estimation of the champion model in sport, particularly in the more complicated sports. Among the best athletes, one could find certain common psychological factors which greatly influence their performance—like resistance to stress, optimal levels of motivation and arousal, a high quality of certain psychological processes (attention, perception, thinking etc.)—but in this field there is as great diversity in functional and physical qualities. John M. Silva finds that attempts to construct an ideal model of champion, based on psychological traits, is sterile and not of very much use: "The trait approach is seen an exercise in futility or a searching for the ideal profile that may not truly exist at any competitive level."

My chief objection to the over-estimated practical value of the model of champion is the fact that the "ideal profile" is made up of the mean value of various parameters of outstanding athletes while extreme data have a great influence on mean values. Such a "model" athlete may not exist in reality.

Especially doubtful is the value of model champion in primary selection of future champions and consequent control of training. Although we may notice certain common traits among top athletes, novice athletes are very dissimilar. So, looking for the traits specific to great champions in very young future athletes may be of no avail. Let us imagine that Demosthenes wanted to enter a school for public speakers: if the principle of model champion was applied, he would have been chucked out at once.

In this way, I think, many potential champions have been deprived of the opportunity to cultivate their chosen sport. I know a few fencers of international standard who were initially rejected but, through persistency, managed to start training and eventually achieved excellent results.

So I think that the model champion as a base for selection, programming and control of training has to play a lesser role than admitted by the majority of contemporary authors. In control of training, it may only help the coach in a very general way, indicating only the direction of action.

Below I present some additional arguments against too rigid an application of an ideal champion profile in the control of training:

- There are many component parts of athlete's form which influence the results of competition and each of them develops at a different pace, and the speed of their development is different among various athletes.
- Detailed monitoring of the progress of various competitors based on the conception of the model of champion (various tests, examinations, controls etc.) may be misleading because some young people develop well in advance of their physiological age and some

lag behind. What makes it more complicated is the fact that children and youth who are retarded in their physiological development may, and sometimes do, achieve very high results later on—this is especially true for girls.

- Taking into consideration the function of the autonomic nervous system, we may divide people into sympaticotonic types and vagotonic types. The former achieve athlete's form very fast and keep it for a short time, the latter acquire peak form very slowly but can keep it for a long time.
- Considering the function of the hormonal system we may divide people into sympaticotonic types and parasympaticotonic types. The former quickly achieve form and lose it quickly while the latter, taking longer to gain form, also keep it longer.
- Among top athletes there are competitors, some of whom achieve the peak of form once or twice a year, some every two years and there are some exceptional athletes who achieve top performance practically throughout the whole year.
- There are many factors which influence the final result in competition. All are important separately and, even more, in their interrelationship and yet there are competitors who achieve outstanding results mainly due to speed or good technique or good tactics or good motor co-ordination, etc. Even in such a simple event as the hundred metres sprint one may distinguish several factors which determine the result: simple reaction to auditory stimulus, execution of start, the phase of development of speed, maintenance of top speed, lowering of speed and anaerobic endurance. All these factors play a different role among top sprinters. One can imagine how much more complicated it is in sports like fencing or tennis.

In fencing and other complicated sports where the number of factors influencing the results is even difficult to estimate—although there are certain similar traits among top athletes—the conception of an ideal model of champion cannot be upheld. Conducting training both in the club and with the national squad and careful observation and analysis of innumerable international competitions, including Olympic Games and World Championships, as well as various tests and research work, enabled me to draw the following conclusions :

- 1) In fencing one ideal champion profile does not exist. World class results are achieved by various types of fencers—fencers of differing ages, fencers of different schools, tall and short, lean and plump, athletes of various temperaments (apart from melancholics), very offensive and rather defensive types, fencers with different techniques, fencers applying foreseen actions and fencers relying on lightning speed improvisation, competitors with very good simple reaction and competitors with short choice reaction, extraverts and introverts, etc.
- 2) The top fencers win, not because they have not got weak points, not because their assets are ideally balanced, not because they have an ideal champion's profile, but because they manage to develop their potential possibilities, their strong points to the highest degree.
- 3) In fencing so many factors (inherited and acquired) play an important part in determining results that a low level or even lack of one factor may be compensated for by another, for example:
 - a) a certain lack of mobility of nervous processes, typical for a phlegmatic type may be compensated by good tactics, careful observation of the opponent and foreseen second intention actions;
 - b) even such an important factor as speed of movement may be compensated by fast reaction;
 - c) rather poor co-ordination of movement may be compensated by great speed and mobility, etc.

The important thing is speed of reaction—fencers with fast simple reaction base their tactics on premeditated, fast and energetic actions while their colleagues with good choice reaction apply more complicated tactics (e.g., “open-eyes” attacks).

Thus, we must admit that the model of champion is of little practical use in fencing as a main element of directing and controlling of training. The fencer’s training and its control ought to be based on a model of competition, taking into account the concrete individual traits of a given athlete. This means that in selection, developing physical fitness, teaching technique and tactics, developing psychological processes, building up individual style of fencing, and preparing for competitions the coach must take into account the following:

- Careful observation of competitions (visual observation, film, video), analysis of technique and tactics, range of application and efficacy of various fencing actions, practical differentiation of various tactico-psychological types of fencers, recognition of modern trends of development in fencing as a whole and of each different weapon.
- The level of transfer of skills and abilities acquired in training to training bouts and, above all, from training bouts to bouts in competition.
- Individual characteristics of a given fencer, dimensions of his personality, traits of temperament, his individual style, of fencing, range and efficacy of his fencing actions, his favourite strokes, ways of solving tactical problems in a bout, level of his perception, correctness and speed of his reactions, self-control and resistance to stress, level of his specific fitness, the range of his technical repertoire, etc., etc.
- Recognising the strong points, assets and potential possibilities of each individual pupil as well as his weak points. The coach and pupil should develop in the first place the strong points, they should work on perfecting the actions and abilities which bring the pupil success and which are consistent with the modern style of fencing. Weak points should be considered mainly when they interfere with the possibility of displaying his assets. For example: an active, offensive fencer should perfect and, in competition, mainly rely on offensive action. He should, however, learn defensive actions to increase the efficacy of his attacks as the psychological and technical base of offensive style of fencing is confidence in unforeseen defensive actions.
- Apart from the coach's own observation he should take into consideration the pupil’s self-assessment (pupil's own assessment of his specific fitness, his technique, his favourite actions, etc.).

Every fencer should be treated by the coach in a different way. The fencing master should avoid trying to push the pupil into an artificial model of champion but should help him to develop his specific, individual style of fencing, his specific reactions, technique and tactics. Speaking generally, in training and its control the coach must take into account: what is actually happening in competition, what actions are used by top fencers, actions used by a given pupil and his individual characteristics.

The general trends of development of modern fencing can be assessed by careful observation and analysis of competitions (the way of manoeuvring on the piste, range of application of various fencing strokes, their efficacy, various ways of preparing an attack, area of target most frequently hit, the methods of judging, influence of rules on tactics, new elements in technique and tactics, etc., etc.). For example, many observations of sabre in the fifties and sixties showed the hits given were the result of: attacks of various kinds – 50%; parry-ripostes – 30%; counter-attacks – 20%. That was a very general picture of sabre fencing in that period. In training and its control, a coach should have taken this into account plus the individual characteristics of each given fencer, which often differs from the average considerably.

Table 1 shows hits scored, by attacks, ripostes and counter-attacks by all fencers together in the final of individual men’s foil, World Championships in Melbourne in 1979.

Table 2 shows the individual differences in the successful application of various strokes by competitors in this final.

TABLE 1

Number and percentage of successful actions in the individual final, men's foil, World Championships, Melbourne, 1979.

Type of action	Number of successful hits	Percentage of successful hits
Various kinds of attacks	63	48
Parry-ripostes	40	31
Counter-attacks	24	21
Total	127	100

TABLE 2

Efficacy of offensive and defensive actions of finalists, men's foil, World Championships, Melbourne, 1979.

	Competitor	A/a	R/r	C/c	Hits	IO	ID
1.	Romankow (USSR)	11/8	10/3	4/2	25/13	2,2	1,75
2.	Jolyot (France)	7/9	7/5	7/3	21/17	0,87	1,55
3.	Dal Zotto (Italy)	19/8	5/5	4/6	19/19	0,90	1,12
4.	Behr (West Germany)	5/7	7/9	6/2	18/18	0,45	1,85
5.	Flament (France)	15/9	7/7	2/7	19/23	1,07	1,44
6.	Cervi (Italy)	6/13	1/5	4/5	11/23	0,60	0,38

A- hits scored by attacks, **a**-hits received by opponent's attacks

R- hits scored by ripostes, **r**-hits received by opponent's ripostes,

C- hits scored by counter-attacks, **c**- hits received by opponent's counter-attacks

IO - index of efficacy of offensive actions (attacks of all kinds and counter-time)

ID - index of efficacy of defensive actions (parry-ripostes and counter-attacks)

$$IO = \frac{\Sigma A}{\Sigma r + \Sigma c}$$

$$ID = \frac{\Sigma R + \Sigma C}{\Sigma a}$$

Even a superficial glimpse at **Table 2** shows the great diversity of actions displayed by the finalists. In the limited framework of this article it is quite impossible to present dozens of similar tables compiled over a period of many years. **Tables 1 and 2** give only a tiny example.

Careful analysis of the range and efficacy of various actions in national and international competitions has allowed me to make objective observations on the development of fencing generally and the style of fencing of individual competitors. These observations comprise, among others: big changes in fencing in recent years, increased differentiation between different weapons, marked influence of new rules on technique and tactics, etc. The general conclusions from these observations are that planning, directing and control of training ought to be based on objective observation of competitions, on the competitor's individual characteristics and the manner in which he utilises his skills and abilities in competition. **To put it shortly, training ought to be modelled on competitions and the pupil's performance in them.**

In programming and directing the process of training and developing the individual style of fencing for each pupil, the coach must take into account:

- 1) objective observation and analysis of competition,
- 2) pupil's performance in competition (his style, range and efficacy of various fencing actions),
- 3) the ways in which he solves tactical problems (psychological basis of taking decisions in the fight),
- 4) individual characteristics of his pupil (personality, temperament, psycho-motor abilities etc.).

The ways of analysing competitions and single competitions performance has already been briefly touched upon.

In order to ascertain the pupil's main and most frequently used ways of taking decisions in a bout we use the following procedure:

A fencer, for a certain period (e.g., a fortnight), during every training bout notes down the following successful actions: a) foreseen first intention attacks, b) foreseen second intention attacks, c) attacks with unknown final, d) attacks with change of decision. This, combined with the results of various objective tests, will allow us to make the right choice of exercises in lessons.

The individual characteristics of a fencer, the level of his specific fitness and his technical abilities can be assessed, by: the coach's observations, questionnaires, psychological laboratory tests, fitness and technical trials, etc.

All these—especially analysing the pupil's performance and behaviour in competition—give a thinking coach plenty of information, e.g.:

- What are the competitor's favourite strokes?
- What are his most successful strokes?
- How does he react when taken by surprise?
- How he behaves in extreme situations?
- Does he prefer foreseen or unforeseen actions?
- How wide is the repertoire of strokes actually used in a competition (compared to the amount of motor skills learned in a lesson)?
- Can he change easily from one action to another?
- Can he keep up high concentration for a long period of time?
- Does he rely mainly on simple or compound reaction or both?
- Can he easily shift attention from narrow to wide and vice versa, from external to internal and vice versa?
- What is his optimal level of arousal?
- What is his main attitude toward training and competitions (ego-involvement or task-involvement?)

- What are the main components of his achieving motivation (motive of success, rivalry, aggressive attitude, emphasis on extreme effort, motive of avoiding failure, emphasis on self-efficacy, independence)?
- Etc., etc.

How to deal with a given competitor after finding out the answers to these and to many more questions is described in more detail in many of my articles and books. Here, in this short paper, **I only endeavoured to stress the usefulness and importance of a model of competition, combined with individualisation of training and tactics as a main guiding line for programming, conducting, directing and controlling the fencer's training.**

Too rigid selection may lead to rejection of really talented people. Attempt to squash everybody into an abstract, universal, stereotyped model of champion may be harmful. **Programmes that are based on competition and individualisation allow the best athletes to rise to the top in due time and for all to find enjoyment and their right place in fencing.** This is my firm conviction and the results of my pupils over many years appear to confirm it. Various tests and research work conducted in the Fencing Department, Academy of Physical Education, Katowice, also strongly confirm it.