

## ORGANIZATION OF PHYSICAL EDUCATION ON A SCIENTIFIC BASIS (ON THE EXAMPLE OF PERSONALITY ANATOMY AND BIOMECHANICS)

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### ANNOTATION

The article describes some considerations on the organization of physical education in sports education on the basis of scientific research, on the example of the anatomical structure and biomechanical basis of the individual.

*Keywords: sports, physical education, sprinting, Coriolis strength, running, barbell, diving.*

### INTRODUCTION

In big sports, it is not enough to steadily master the peaks of skill and increase the body's resistance to adverse factors with regular daily intense exercise in order to maintain this skill for a long time. These kind of unintentional exercises can broke young's leg or waist.

Like any pursuit of perfection, true science-based sports education (physical education) has a deep theme.

In this sense, the steady conquest of the peaks of mastery in sports, that is, the attainment of "infinite power", requires a painful path that leads to a specific physical, spiritual perfection. In this way, truly scientifically based physical education can be called an important factor and tool that leads to the realization of the desire to achieve perfection and new aspirations.

If we apply the above directly to the problems and prospects of research in physical education and sports, it can be divided into two important directions:

1. Researches related to the law of nature
2. Includes field research on sports.

These directions include a very wide range of work. Here are some brief examples, which include:

1. Development of scientific and theoretical bases of running, weightlifting, diving safety, swimming, cycling, car racing, parachuting, skiing, etc. And its application in practical training;
2. Athlete's abilities: a) bioenergetic indicators; b) speed and strokes of the athlete's arms, legs and other moving limbs; c) determine the sense of speed and distance in javelin throwing and racing;
3. Determining the time of the athlete's reaction to various influences;
4. Control of the athlete's nerve regulation;
5. Determining the level of elevation of the athlete in the performance of exercises, etc.

The above determinations can be made using observation, theoretical calculations, execution, special equipment, devices, and simulators.

The content of biomechanical diagnostics in physical education and sports is wide, based on the scientific application of knowledge in physics, geography, astronomy, theoretical mechanics, biology, mathematics, hydraulics, hydromechanics, hydrodynamics in all sports.

Due to the limited scope of the article, some of these were highlighted.

The spirality of the world, especially the shape of our galaxy, is also related to the spirality. The sun, along with neighboring stars, moves around the center of the galaxy in a counterclockwise direction at a speed of about 240 km per second (864,000 km per hour). The impact of this natural phenomenon on athletes has not been fully studied scientifically, the following examples can be given:

-Why do athletes only turn left in running, equestrian and many other sports?

-Is this left-sidedness due to the rotation of the earth counterclockwise (left)?

-or depends on the anatomical structure of the athlete (human)?

-What is the result of checking that distance by turning the same athlete to the right on the same field?

The flow of warm and humid air (passage) to the laws of the spiral world creates a spiral cloud due to the rotational motion of the Earth. But this current, or vortex of storms, rotates clockwise in the Southern Hemisphere and counterclockwise in the Northern Hemisphere. What are the results of studying the effect of Coriolis force (F<sub>c</sub>) (Fig. 1) on the final result in all sports, named after the French physicist Coriolis Gaspar Gustav (1792-1843), who first determined the influence of these currents by studying the laws of nature above?

What is the analysis of the study of whether the emergency sports facility in the established records corresponded to the direction of Coriolis force (F<sub>c</sub>) or vice versa?

### **ANALYSIS OF THE RELEVANT LITERATURE**

According to the analysis of the literature on the anatomical structure of the subject and its biomechanical basis: V.N. Platonov. Preparation of qualified sportsmen. Moscow, "Physical training and sports. 1986. Books; Abdullaev A. Theory and methods of physical education. Fergana, 2001, textbook; I.M. Alibekov. The role of physical education in the upbringing of a harmoniously developed person and its organization. Jizzax-2006. The manuals cover the anatomical structure of the individual in sports and the scientific basis of movements related to biomechanics, such as running and weightlifting (barbell lifting), diving, and so on.

### **RESEARCH METHODOLOGY**

Therefore, the study focused on the theoretical substantiation of the "left" bias associated with the anatomical structure of man (person) and the biomechanics of diving.

The theoretical basis of some analytical considerations on the above left-wing problem can be substantiated as follows.

It should be noted that in sports competitions (running, figure skating, shot put ...), which we always watch with excitement on TV or directly on the sports field, athletes move to the left. Why? it has been said that a lot of sporties have never thought about it even they are doing sport for a long time

In conversations with experienced coaches who have coached sports for 30-35 years, their lack of thought can be explained by the fact that the theory of physical education does not address this issue.

For example, an athlete who turns left on a sports field, what is the result when he runs that distance to the right. No one has done any research on this (according to the experts we surveyed). Therefore, we will try to find an answer to this question.

It was said that as the earth rotates counterclockwise, that is, to the left, athletes move to the left (this is the opinion of many). There is no doubt in this commentary that the Earth revolves around its axis at a speed of 30 kilometers per second, and this affects all natural phenomena. However, with this logical answer, the question cannot be said to have been resolved.

In our view, there are other reasons that add more clarity to the issue. According to studies of the anatomical structure of the human body, the left foot is 2 millimeters shorter than the right foot and the left ear is better able to hear than the right ear. We focus on the fact that the left foot is 2 millimeters shorter

than the right foot. At first glance, this very small size (half the size of a matchstick) seems to interfere with the sport. But if we look closely, we can see that it is most important thing.

We will continue to be selective together. To do this, we first conduct a small experiment. Let's make the diameter of the two wheels on one side of a children's toy car or tractor (say, the one on the left) a little smaller than the other side (on the right), push it by hand on a flat surface, and let it move freely. The car turns left. Now, on the contrary, we repeat the same experiment by making the right wheel smaller (by replacing it). Now the car turns to the right and moves. This experience can be the basis for a truly accurate answer to our question. This means that our left foot fits the left wheels of the car in the first experiment and encourages us to move mechanically to the left. Let's move on to a clear calculation to clarify our assumptions.

Let's say an athlete is running 100 meters in a circular sports palace, and to cover this distance he has to walk about 145 steps (because "step" is the old unit of measurement of our ancestors, it is 60-80 centimeters). In this case, when the step is less than 2 millimeters, the left foot is 30 centimeters behind the right foot. When the distance is a thousand meters, it is 3 meters, and when running 10 thousand meters, it is 30 meters, and so on. From a mathematical point of view, our left foot is closer to the center of the field and its radius is smaller than that of the right foot. Achieves good results.

Scientists have found that the hand-foot movement is controlled by the brain, while the left eye and left foot obey the left hemisphere. Experts have found that the left hemisphere of the human brain has been more developed than the right hemisphere since ancient times. Since the left hemisphere was more active, we concluded that both the right arm and the right foot were more developed than the left, so that the right foot was 3 mm from the left foot. The only basis on which the cause of length can be applied is on this basis.

The good development of the brain in the left hemisphere can be explained by the effect that the heart is located close to it on the left side.

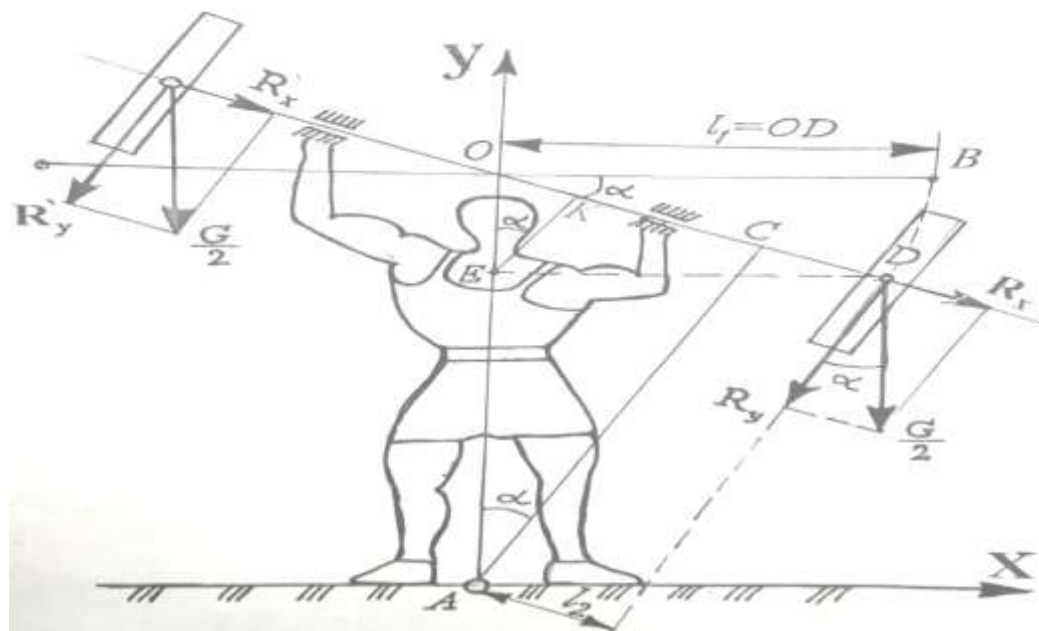
Because where the blood reaches well, it is natural for life to be active (in this sense, the left hemisphere of the brain is "close to the ear"). The dominance of our right hand and foot over our left hemisphere is inherited from generation to generation and continues to be expressed in this sport as well.

An important issue for practitioners of physical education theorists is how long it takes for an athlete to cover the same distance on a straight track, and what the diameter of the sports field should be, depending on the distance (running) to achieve the best result, or vice versa. To determine how long it will take for. The problem in sports with the 2 mm shortness of the left leg is explained as follows in the example of lifting a barbell.

To do this, imagine lifting both hands and lifting the human body 100 times, with the left hand lifting the barbell with a bending (a) 20 cm shorter than the right hand (Fig. 2). Such as and disturbs the athlete's balance. By turning left (Fig. 2).

In addition to the left side, it is important to take into account other problems with the barbell (sport):

-Consider the direction of the Coriolis force ( $F_k$ );



-Taking into account the height above sea level;

-Including why the moon is daily, and so on.

We will give a brief overview of how to apply these factors to research.

One of today's problems is the scientific substantiation of how the forward, backward, left, or right unbalancing laws of a barbell related to the Coriolis forces acting on it depending on its position when lifting a barbell have different geographical latitudes and hemispheres.

The next problem with barbell lifting is the natural geographic environment, which is the scientific study of the height of these sports fields above sea level.

It is known that all gravitational forces or gravity vary depending on the altitude of the place above sea level.

For example, the weight of a bar at an altitude (2000 m) above sea level is much lighter than at a distance below it. In this sense, this law should be taken into account when setting a record in weightlifting. This requires information about body mass, acceleration of free fall, and position relative to the equator, altitude above sea level.

Also, the number of days of the month (13-15 days) has a big impact on sports performance. Because on the days of each full moon, people are affected mentally and physically due to the occurrence of a natural "biological flood" in nature. This is because more than two-thirds of the human body is made up of water.

The second direction of the organization of physical education on a scientific basis, highlighted in the topic, we will focus on the theory of biomechanics in ensuring the safety of the athlete in water sports.

It is known that in mechanics, including biomechanics, all theoretical calculations are aimed at analyzing the worst cases and overcoming this risk. In our case, we are talking about determining the

reaction (impact) of the water given to the athlete in connection with the inconvenient fall into the water in the figure jump from a height (Figure 3).

To do this, we take the mass of the athlete as  $m = 60$  kg (this is also determined in practice).

Athlete's top jump speed  $v_1 = 20$  m / s before attempting to surface (this can also be determined in practice). 0.5 seconds after the athlete was hit by the water, his speed decreased to 10 times (this can also be determined experimentally).

We direct the  $n$  axis vertically downwards from the center of gravity of the athlete. Using the theorem on the change in the momentum of a material point, we project it onto the  $n$ -axis.

The impact force in this situation is found as follows:

$$mv_{2n} - mv_{1n} = \sum_{k=1}^n S_n * (F_k) \quad (1)$$

$V_{1n}$  is the speed at which the athlete's body hits the water  $v_{1n} = 20$  m / s;

$V_{2n}$  is the speed of the athlete 0.5 seconds after hitting the water

(m/c)

$$v_{2n} = \frac{v_{1n}}{10} = 2 \text{ m/c}; \quad (2)$$

$S_n$  is the momentum of an instantaneous reaction force directed perpendicular to the athlete's body from the surface of the water.

$F_{k-k}$  instantaneous power.

In our case, the only instantaneous force is the  $R$  reaction of this water

In that case. Will be  $\sum S_n(Fk) = \int_t^{t+t} Rndt$  (3) Where  $t$  is the moment of onset of the shock,  $T$  is its duration.

We use the theorem to find the average value

$$\int_t^{t+t} Rndt = Rn \int_t^{t+t} dt \text{ and } \int_t^{t+t} Rndt = Rn \int_t^{t+t} dt$$

By substituting the value of the fourth formula (4) into (3) and calculating that  $T = 0.5$  c, we obtain  $\sum S_n(Fk) = 0.5 Rn$  (5 formula).

Using the results of (2) and (5) and taking into account the expression in equation (1) and that  $m = 60$  kg, we find the average value of the reaction of water to the athlete on its projection on the  $n$ -axis, which is  $Rn$  or  $-2,160 \text{ H} = -2,16 \text{ kH} = 220; 3 \text{ kH} \approx 220 \text{ kH}$ .

It is obvious that the athlete's training without proper biomechanical knowledge not only harms his health, but also has a negative impact on the results of his efforts. In this sense, diagnostic methods based on biomechanics in almost all sports, their scientific, theoretical and practical use of their content, forms and tools are important not only to increase the effectiveness of sports education, but also to provide guidance on its future development.

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