SCIENCE AND PHYSICAL CULTURE – A GLIMPSE INTO THE FUTURE

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UDK 796.011:304

SUMMARY

The end of the 20th and the first decade of the 21st century are characterized by a technological development which could be described as having revolutionary speed. If we were to look back on the revolutionary events during the 17th and 18th century, in the domain of great scientific changes, changes in industry, agriculture, economy, the organization of social relations (democracy and socialism), we could say that we are witnesses to this sixth technological revolution.

All these civilizational leaps forward have conditioned, quite expectedly, big changes in our profession. This has been reflected in the goals which have been imposed by social changes initiated by numerous revolutionary changes. Even though man and his need for physical exercise, as the nourishing food necessary for his being, have remained the same, the circumstances which have imposed different living conditions have required changes in our profession. Naturally, this was reflected in our science as well (which we refer to by different names today).

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The time we live in, caught up in this new sixth technological revolution, requires a different approach to man and his personality. Now, the question is not only how to “drag” him out of a sedentary culture, but also how to fight the increasingly present physical and intellectual inactivity. Through perfectly guided marketing activities which have been made possible by the implementation of new technological aids, man has been drawn into the hedonistic waters of his own inactivity. And unfortunately, he cannot free himself from this skillfully set trap. That is why physical culture and science must be included in finding a means of helping man find his way out of this hedonistic labyrinth and return to his roots.

**Key words:** sport science, physical education and sport science, social science

**INTRODUCTION**

In the development of each civilization, science takes a very important and prominent position. From the beginnings of human civilization, to this very day, philosophy has used its crystalized pearl – its science, to enable civilizational improvements and leaps forward. One such civilizational leap is the technological development which has marked the time we live in as well.

The end of the 20th and the first decade of the 21st century is characterized by technological development which could be considered as having revolutionary speed. If we were to look back and reflect on the revolutionary events from the end of the 17th century, during the 18th and from the very beginning of the 20th century in the domains of great changes: in science, industry, agriculture, economy, the social order (democracy and socialism), we could say that we are witnesses but also a part of this sixth technological revolution. And as its contemporaries we can see, and we can say, that today it is unthinkable to organize life, even in rural environments – without cell phones, computers and other “smart” machines. Of course, all this has a beautiful and useful side, but its underside is not nice, and even less useful.

Unfortunately, “by swallowing the bait” of seduction of the virtual world, man is leaning increasingly more to the other, uglier side. Thinking that he is allowed everything, he willfully ignores the other part of the message of the apostle Paul that *not everything is beneficial.*

1 And so man, young man in particular, instead of looking at the person next to himself, “latches on” to social networks, “surfs”, “builds” his “networks|” and so builds a world without a soul.

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1 Corinthians: “I have the right to do anything,” you say—but not everything is beneficial. “I have the right to do anything”—but I will not be mastered by anything.” (1.Corr. 6, 12).
Because of all this, stated in a few simple sentences, the times we live in require a different approach to man and his personality. Now the question is not only how to “drag” from the sedentary culture, but also how to fight the increasingly present physical and intellectual inactivity. Through perfectly realized marketing activities which have been enabled by the application of new technological aids, man has been drawn into the hedonistic waters of his own inactivity. Unfortunately, from this craftily set trap he cannot free himself. Which is why physical culture and science must be used to help man find a way out of this hedonistic labyrinth and return to his roots.

Science, as a concept belonging to the category of so-called complex concepts can be defined in several ways. It will suffice to glance at “all-knowing Google” to prove this conclusion is correct. But, we will use a well-thought out and inclusive definition of science, which states:

“Science is systematic and methodological research and knowledge in which every claim must be based on sufficient and relevant rational reasoning, and its relevance to the subject at hand to which it refers must be confirmed either through applicability, or documents and testimonies, or experimental procedures which are conducted based on the general methodological principles.”

And it is precisely in this fact – that every scientific claim which has emerged from results obtained through research can and must be confirmed, lies the strength and credibility of science. This was (among other things) what Francis Bacon had in mind when he said that knowledge is power.

It is true, knowledge is power, and knowledge is might, but if in its background there are no morals or general values based on morals, then its strength, its power, will be focused in the wrong direction. Or, as apostle Paul would say, speaking of Love, that is, of God: “… If I have the gift of prophecy and can fathom all mysteries and all knowledge, and if I have a faith that can move mountains, but do not have love, I am nothing.”

Knowledge which manifests the power of science, is an opportunity for those who possess this knowledge to show their values. Since, in their constant race toward the ratio and the constant separation of the mind from the human heart, those who possess this knowledge can, but do not have to, lose the necessary balance between human existence and human activity. That is why we

\[2\] One of our archaic words views science as ljubomudrost (English: love of wisdom)

\[3\] Small encyclopedia Prosveta, pp. 759, author’s own translation.

\[4\] This hymn to Love was one that apostle Paul dedicated to those who needed it the most. The times than and now, as well as the interval in between, cry out for love, this kind of love. (I Corin. 13, 1 – 8)
should always be reminded that we are, even though scientists, *nothing without love*. Or as patriarch Pavle used to say: *always as men, never inhumane*.

| **Small knowledge** we obtain through learning, |
| **big knowledge** we get through belief and honesty. *(St. Nikolaj Žički)* |

This is why in our definition of physical culture, emphasis is placed on knowledge:

**Physical culture** is a *human activity which as a part of the general culture, through knowledge OF physical exercise and knowledge FOR physical exercise, within its fields (physical education, sport and physical recreation), enables the transformation of the personality from real to the possible*.

*Science* based on cultural and civilizational values of the people, deeply rooted in basic moral values, is a treasure which was created for the wellbeing of all, and is meant for everyone. This: *to everyone and for everyone* (Orbi et urbi), even though by today’s standards it seems anachronous, but still is a value for all times. And this *scientific knowledge*, following this *value for all times*, will be available for everyone and to everyone. This is our responsibility.

"Life sets goals to science, while science lights the path of life."

Nikolaj K. Mihajlovski

Furthermore, it is our responsibility to, in the existing culturological and civilizational framework, adapt the existing goals and tasks of our profession to the new social circumstances. Even though man and his need for physical exercise, as the nourishing food necessary for his being, have remained the same, technological development has led to changes in one’s way of life; not only in urban, but in rural environments as well. Still, this problem is significantly more different in larger urban environments. And will only increase in size.

It will suffice to remind ourselves of only two facts related to plans for further urban planning, both of megalopolises and “smart” cities. The tendency of “compressing” people into (extra)large cities – megalopolises, surrounded by
numerous rings, so-called roundabouts or bypasses, which even physically make it difficult for people to “escape” into nature and feel its benefits, is not only far from any humane organization of life, but is increasingly confirming the intent – those who planned for it - to exert good control over the people in one place. Thus, Orwell’s predictions on the absolute control of people are fully being realized.

The second type of absolute control of people does not include so-called “smart” cities. This decade-long project, with the idea of fully automatized living space for fifty thousand people, with “chips” built into them, which is also necessary for their guests, is not a futuristic vision but a reality which is spreading through the world.

Even these few facts indicate how necessary it is to adapt the goals and tasks of our profession and our science to the newly-developed social circumstances. Even though human behavior is adapting to the new social circumstances, luckily man is still a being unique in his trinity. In this being, and this is our obligation, should be approached as a person – single, unique and one-of-a-kind.

Because of this science has an exceptionally important and responsible place in the further development of cultural and civilizational frameworks. This should also be taken into consideration.

THE TENDENCIES OF SCIENTIFIC DEVELOPMENT

In an attempt to understand the importance and role of science, it would be a good idea to once again point out that science is man’s creative activity which represents the source of his knowledge. And this knowledge, primarily based on logic, inevitably leads to scientific truth. This syntagm, scientific truth, determines and indicates that this is a truth in which man (still) is the judge and the only evaluator. And it is precisely in this generally accepted fact that man is creator of the (scientific) truth lies the trap of every scientific research. Therefrom originates that reminder of apostle Paul’s The Hymn to Love.

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5 Smart cities are not a futuristic or movie story. They are a reality of the times we live in, at the level of an ongoing experiment. To date more than then “smart” cities have been built, inside of which every thing is automatized, and the people all have chips which enable them to use all the programmed activities: from opening doors, turning on taps, to using vehicles of transportation. It is interesting that all these “smart” cities have been built all over the world.

6 Man made of both the physical and spiritual, only through baptism and the coming upon of the Holy Spirit becomes a trinity worthy of every respect.
Truth – the ultimate judge of science

The characteristics of science as an important creative activity of man, are a reflection of man’s very wish for constant improvement. That is why we can also say that they are:

1. Attempts to develop;
2. Attempts to connect facts which we can obtain through observation and experiments;
3. Attempts to connect facts with the theory and to, based on that theory, present new facts.

But in order for a science, including the science of our profession, to be able to connect scientific facts with theory and to use it to motivate new research for the development of new scientific facts, it must mature and grow, passing through various phases of its development.7

Every science goes through three phases of development:

a) a descriptive phase – is a phase which is characterized by the gathering of facts and their primary systematization;

b) a logical-analytical phase – is a phase in which (some) particular methodological procedures perform qualitative analyses (of some) studied object, and

c) a phase of harmonious unity with qualitative and quantitative methods of scientific knowledge. This is the highest phase that each science aspires to.

Naturally the extent to which a particular science develops, and in that context, the science of our profession, sport science, depends on the extent of development of other sciences and scientific disciplines. In this scientific multipolarity each science, increasingly, depends on the cooperation with other sciences. And that, now more than obvious reality, conditioned by a technological revolution, had various phases of (non)cooperation.

7 According to: Dobrov, M.G.: Nauka o naukama... (Science of sciences), pp. 20.
All these processes which have taken place in science and which have been aimed at partializing science, and vice versa, toward unifying, were reflected in sport science (as well). In order to visually represent this, we will use a graphic representation of the detachment and integration from the Dictionary of Sport Science (German, English, French):8

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The tendency to partialize to the limit of the absurd, which had marked the second half of the 20th century, seems to have followed the social trends. This existing desire of small and large social communities for independence, expressed not only in the 19th century, but also in the second half of the 20th century, the first half of the 20th century had to be skipped because of the two world wars, had a great effect on all spheres of social life, and thus science as well.

Luckily this period of unreasonable partialization and division into scientific self-sufficient disciplin(ette)s is behind us. And now we, in our science, see all the usefulness of multidisciplinariness. As, let us resume, the focus of our research is complex human nature and its gifts. And these gifts that man possesses, which he was bestowed at birth, are a great gift from the Creator, and can be found in:

- the core of all natural forms of physical movement-exercise: crawling, walking, jumping, running, throwing, climbing;
- at the core of his being which can, thanks to these gifts, be a unity of body and soul;
- at the core of one’s being, in an ontological sense, which is free and which will not take its freedom, that is, its integrity, as something given, something that should be understood as something given, something to be defended legally, and instead something we have been tasked with, and which should be achieved through unity with others.

As a result, we can state that man and his gifts are the foundation of our profession and the object of study of our research.
Сви ови цивилизацијски скокови унапред условили су, сасвим очекивано, и крупне промене у нашој структури. А то се огледало у промени њених циљева које су наметале друштвене промене иницирани набројаним револуционарним променама. Иако су човек и његова потреба за физичком вежбом, као благодатном храном неопходном његовом бићу, остали исти, околности које су наметале другачије услове живота, захтевале су промене и у нашој структури. Наравно, све се то осетило и у науци (коју и данас на различите начине именујемо).

Време у коме живимо захваћено овом новом шестом технологском револуцијом, захтева другачији приступ човеку и његовој личности. Јер, сада се поставља питање како га не само „извући” из седеће културе, већ како се борити против све присутније физичке и интелектуалне неактивности. Перфектно вођеном маркетиншком акцијом коју је омогућила примена нових технологијских помагала човек је увучен у хедонистичке воде сопствене неактивности. И, на жалост, из ове лукаво постављене замке не може сам да се ослободи. Због тога физичка култура и наука морају да се ангажују у проналаску начина да помогну човеку да нађе пут из овог хедонистичког лавиринта и врати се својим коренима.

Кључне речи: спортске науке, наука физичког васпитања и спорта, друштвене науке

НАУКА И ФИЗИЧЕСКАЯ КУЛЬТУРА – ВЗГЛЯД В БУДУЩЕЕ

АННОТАЦИЯ

Конец 20-го и первое десятилетие 21-го века отличаются технологическим развитием, для которого характерна революционная скорость. Если бы мы оглянулись назад на революционные события XVII и XVIII веков в области великих научных достижений, изменений в промышленности, сельском хозяйстве, экономике, организации общественных отношений (демократии и социализма), то мы могли бы сказать, что являемся свидетелями шестой технологической революции.

Все эти цивилизационные скачки вперед обусловили, вполне ожидаемо, большие изменения в нашей профессии. Это нашло отражение в целях деятельности, которые были навязаны социальными изменениями, инициированными многочисленными революционными начинаниями. Несмотря на то, что человек и его потребность в физических упражнениях, как и в питательной пище, необходимой для его существования, остались прежними, обстоятельства, определяющие различные условия жизни, потребовали изменений в нашей профессии. Естественно, это нашло отражение и в нашей науке (которую мы сегодня называем по-разному).
Время, в которое мы живем, оказавшись втянутыми в эту новую шестую технологическую революцию, требует иного подхода к человеку и его личности. Теперь вопрос не только в том, как “вытащить” его из сидячей культуры, но и как бороться с все более присутствующей физической и интеллектуальной бездеятельностью. Благодаря совершенной маркетинговой деятельности, которая стала возможной благодаря внедрению новых технических средств, человек оказался втянутым в гедонистические воды своей собственной бездеятельности. И, к сожалению, он не может освободиться из этой ловушки. Вот почему физическая культура и наука должны быть включены в поиск способов помочь человеку выбраться из этого гедонистического лабиринта и вернуться к своим корням.

Ключевые слова: спортивная наука, физическая культура и спортивная наука, социальная наука

Received on 15.5.2018
Accepted on 14.6.2018.