

## PSYCHOLOGY

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# Quantum physics and sports training. The possibility of using the achievements of quantum physics in football

Submission: 6.10.2014; acceptance: 1.11.2014

**Key words:** sport, training, spiritual training, quantum self, healing

### Abstract:

Background. A theoretical perspective is provided here by a new system paradigm, consistent with the knowledge resulting from the findings of quantum physics. The authors also refer to certain trends in psychology and the theory of sports training.

Aim. The main objective of the study was to examine whether it is possible to effectively use the achievements of quantum physics in football training.

Methods. The primary technique of the research was a study of individual cases (N = 6). A preliminary analysis of subject literature was also carried out. The form of presentation of the contents of the scientific inquiry and the reflections concerning the results of quantum training was a direct interview.

Results and conclusions. The applied quantum training turned out to have very good results. In only in one case a clear improvement in health and psycho-physical fitness was not achieved. A need to continue and expand the research topics and their methodology was emphasised.

### Introduction

The pioneer of quantum physics was Max Planck. Predictions based on his theory concurred with the experimental results. It is assumed that quantum mechanics was developed independently by Werner Heisenberg in 1925 and Erwin Schrödinger in 1926. It was subsequently developed thanks to the work of Max Born and Paul Dirac. Even before the final version of quantum mechanics appeared the pioneering theoretical works of Albert Einstein, Niels Bohr, Louis de Broglie and Arnold Sommerfeld were created. The version covering quantum field theory was developed to its final form by Richard Feynman and others. The principles of quantum mechanics are now the paradigm of physics and chemistry. Along with the theory of special relativity, quantum mechanics (and quantum theory) are the basis for the description of all physical phenomena.

The idea of quantum field theory may be quoted here. Due to the wave properties of any micro-particles and the quantum qualities of all fields, “each field (in the classical approach) is a system of

particles and each system of particles (also in the classical approach) corresponds to a certain field. The most characteristic feature of relativistic physics is to disregard the number of particles. Particles arise and disappear in the process of interaction. The first known process of this type was radiation and the absorption of electromagnetic waves” [PWN 1973: 770; cf. Bolton 1974: 638-650].

In the case of quantum theory we are not dealing with matter particles, but rather as postulated by Heisenberg [1959], with matter waves. In 1927 Werner Heisenberg formulated the uncertainty principle. We already know that the physical world is made of matter and energy. Light has a corpuscular-wave structure. That is why Isaac Newton’s mechanics is flawed as well as the whole materialistic approach to reality. The field of scientific thought cannot be deprived of energy, light and all the spiritual realm, which complement the material world. In some circumstances the conversion of matter into energy and vice versa may occur. We cannot always determine where

something is located (e.g. an electron), and sometimes a given elementary particle may be a particle of matter or wave or even both at the same time. The description of this reality requires departing from the classical logic of Aristotle in the direction of the paradoxical logic (something is and something is not at the same time) or non-classical logics [cf. Cynarski 2002-2003].

While physicists have previously focused their attention on theoretical considerations, including physics itself as a scientific discipline, others as Capra or Goswami, are looking for more general explanations [cf. Bartlett 2010a, b]. Quantum physics provides great opportunities here today, and a wide field of inspiration. There is a dominating desire to apply particular practices, even if they are not entirely scientifically justified and explained. This new outlook on physical reality provides more opportunities to explain the world and man's functioning in it. The new paradigm should provide a better understanding of human consciousness, with a leading role for the so-called 'quantum self'.

The "*quantum self*" – this is a term that refers to enlightenment or the state of sanctifying grace (the Holy Spirit), or the "spirit of divinity" [Goswami 2014b: 50-51, 136-137, 246]. According to Wojciech Pasterniak, it is the greatest energy, the divine element; it has an eternal and timeless character. Quantum self means being in a state of the grace of the Holy Spirit and with a sense of luminosity, which leads to spiritual bliss (in Sanskrit *ananda*) [Goswami 2014b: 137, 245]. In particular Siranus Sven von Staden [2011, 2013: 136-137] associates quantum self with Erich Fromm's "the state of being" [1976/1989].

Prof. Dr Amit Goswami, American quantum physicist, says that "we need a new paradigm, which includes both matter and self, together with all kinds of experiences – sensing, feeling, thinking and intuition". This is a new inclusive paradigm, based on quantum physics and metaphysics, which sees consciousness as the basis of all existence" [Goswami 2014b: 24]. It is at the same time generally consistent with the assumptions of the new scientific, humanistic and systemic paradigm [Cynarski 2014], and the concept of a systemic health theory [Capra 1982: 171-565; Weil 1983; Astin *et al.* 2003].

It is also worth relating this theory to some of the trends in psychology where the concepts of myth, archetype, symbolism, consciousness, spirituality and spiritual experiences are significant [cf. 1934-1954 Jung, Jung, Franz 1964; Fromm 1973/1992, 1976/1989; Wilber 1998, 2008; Csikszentmihalyi, 1990; Goswami 1996, 2014; Krishnamurti 1995, 2002; Szyszko-Bohusz 2000, 2004; Gerrig,

Zimbardo 2009; Pasterniak 2013]. "Mythology, as the philosopher William Irwin Thomson says, is the story of the soul (consciousness)" [Goswami 2014b: 103].

Previous applications of quantum knowledge in medicine (especially Alternative Medicine), psychology and pedagogy are as follows. Many authors encourage others to use therapeutic methods, which are often their own holistic methods of healing [cf. Takahashi 2009; Kinslow 2010; Staden 2011; Loyd, Johnson 2012; Gordon, Duffield, Wickhorst 2014a]. Some methods are advertised as effective in improving human potential and energy, which is supposed to have the effect of attaining success in various fields [cf. Goswami 1996, 2014; Staden 2011, 2013; Ighisan 2012, 2014]. It results from the idea of the impact of the mind and consciousness on matter or as described by Dr William A. Tiller: "Human intention can have a significant impact on the material properties and the nature of reality" [Gordon, Duffield, Wickhorst 2014b: 183; cf. Grout 2013, 2014]. No less importantly both socially and culturally, as well as for the *science of physical education*, is the **problem of how to improve sports training, understood as the process of the physical, technical and tactical, mental and spiritual preparation of an athlete<sup>1</sup> – and bringing him to the possibly highest sports level.** This kind of preparation is already successfully implemented by some experts. For example, Richard Gordon worked with basketball players [Gordon Duffield, Wickhorst 2014: 33], while Marjan Ogorevc [2011] worked with a team of athletes. Wojciech Pasterniak has quite substantial experience in the field of the spiritual (quantum) training and preparation of athletes in different disciplines [Pasterniak 2007; Pasterniak, Cynarski 2012, 2013].

Richard Gordon finds an inexhaustible source of energy in the feeling of love. Dr Claude Swanson is critical to the achievements of today's physicists, saying: "Physics in its current form is incomplete. Physicists cannot address the issue of consciousness affecting physical objects" [Gordon Duffield, Wickhorst 2014: 115]. In turn, Dr Mehmet Oz [2014: 45] reconciles the authors mentioned above by expressing the following view: "I think energy and its use in healing will become the greatest milestone in medicine in the next ten years." Relations of consciousness and spirituality with sport and health are also emphasized by the authors representing Christian spirituality [John Paul II 2000-2004; Loyd, Johnson 2012].

<sup>1</sup> The spiritual preparation of competitors is particularly often neglected [cf. Ważny 2001; Cynarski, Litwiniuk 2005].

The results of the scientific inquiry and some reflections on the effects achieved by quantum training, conducted by Wojciech Pasterniak are presented below. The research method was a study of individual cases and the content is presented in the form of an interview.

*Prof. zw. dr hab.* Wojciech Pasterniak is a very versatile humanist, who has lectured on, or taught: philosophy, cultural anthropology, psychology, pedagogy, ethics, literature studies, literature didactics and religious studies. His main areas of scientific interest concern the relationship between theoretical knowledge and practice, between interdisciplinary knowledge supporting sports performance, and specific achievements in sport. For thirty years he has been interested in unconventional medicine both in theory and in practice. He applies, inter alia treatments and training such as music therapy and therapy through the visual arts<sup>2</sup>. The athletes he has trained include Łukasz Czapla the triple world champion in shooting at a moving target, table tennis players from ZKZ Drzonków and Bogoria Grodzisk Wielkopolski, speedway racers and others. He consulted Wang Zi - the only Polish table tennis player who took part in the London Olympics.

It is worth mentioning that Professor Pasterniak prefers to use a holistic approach to his research, treatment and sports training supported by the achievements of many sciences, including philosophy and his knowledge of the Far East. He has published 12 books and monographs, over 300 dissertations and scientific articles. His achievements are considered bold, unconventional and creative. For 35 years he has been the editor of the annual "Dydaktyka Literatury", converted in 2010 to "Dydaktyka Literatury i Konteksty" ("*Didactics of Literature and Contexts*"), as well as a longtime member of the Scientific Board of "Ido Movement for Culture" and the author of several works originally published in it. He was awarded the Twentieth Anniversary of the Idokan Poland Association Medal [cf. Pasterniak, Cynarski 2012].

The other co-author of this paper is an independent academic in the field of physical education and a specialist in the theory of sport, as well as a MSE, which means his studies included a course of physics at a higher level. He is the author of the definition of sports training provided in the text.

<sup>2</sup> This researcher has developed a typology of music and painting images due to their usefulness in the treatment of diseases.

## The Interview

**Wojciech J. Cynarski** – 1) Professor Pasterniak, why did you start considering the application of quantum physics to the humanities?

**Wojciech Pasterniak** – From somewhere in my studies and interdisciplinary research I began to see the need for some sort of synthesis and practical application of knowledge, which are seen as separate entities, while I understand the boundaries between disciplines as agreed on and flexible.

Three years ago I read a dozen books on the application of quantum physics in various fields. I found the 'healthcare' application the most interesting one. It turned out that for many years, despite not knowing any quantum physics, I had been carrying out a similar study and had had some success in the treatment of various diseases using similar and sometimes identical methods, which I later found in books on quantum physics. So we can say that this area of science supplemented and expanded my previous interests. At the same time, I have realized that the use of this enriched knowledge greatly helps in the treatment and cure of various, sometimes serious, diseases.

The second reason for my interest was undoubtedly the essence of quantum physics and its applications, which offered a completely new paradigm for solving various individual and social problems in a highly economical and, so to speak, 'non-cash' way. I would also like to draw attention to the attractiveness of the thesis of quantum physics, claiming that "consciousness can affect external reality" [Gordon, Duffield, Wickhorst 2014b: 43].

By chance I met the president of Flota Football Club in Świnoujście, who along with the coach, Bogusław Baniak and some of the players agreed to work with me in an examination of some of the results of some practical applications of football training.

**WJC** – 2) What in your opinion is the most important aspect of quantum physics?

**WP** – Some scientific theories open up the prospect of multilateral research, for example on the human condition, on man's internal and 'non-local' [Gordon Duffield, Wickhorst 2014b] energy. Also the statement of the crucial role of consciousness in the creation of the world and life, as well as the possibility of using this energy in different areas, as exemplified by my research in the field of health and football training.

**WJC** – 3) Can you say something about your research in brief?

**WP** – I conducted empirical research on the problem of improving football training in the first half of 2014 among the players in “Flota” football club in the Polish First Football League based in Świnoujście. The research was made possible due to the great kindness of Mr. Edward Rozwałka the team chairman, his deputy Jarosław Dunajko and the team coach Bogusław Baniak, and very keen interest among the players themselves who volunteered for the experiment. I used a variety of research methods. Globally speaking, this was a technique of individual cases (for  $N = 6$ ). The main objective of this study was to examine the possibility of the effective use of the achievements of quantum physics in football training. It was done in order to determine 1) whether the application of quantum physics to football training is possible or impossible. 2) Which elements of this theory can be best assimilated by the players? 3) What are the direct and indirect (long-distance) effects of football quantum training in areas which I am going to describe, in the case of players who voluntarily participated in the study? The study began with my lecture on the shortcomings and achievements of football on a global scale, then the players could spontaneously apply for the experiment presented here.

The first one to apply was Tomasz Mokwa, a 21-year-old defender, who has played for “Flota” Świnoujście for a year. He turned out to be a very conscientious, hard-working and intelligent player. I presented him as well as other players, with various options for independent exercises which they could choose as they wished. These were different exercises described extensively in quantum literature (*cf.* References), e.g. meditation techniques [Dahlke M., Dahlke R. 2001]. In addition to the exercises which I borrowed, I also used exercises of my own devising, or with some slight modification, which I will describe later.

To some extent the treatment of various injuries was a separate area. In the case of Tomasz Mokwa together we cured (with the necessary co-operation of the player) a left ankle injury by using the so-called “*quantum touch at a distance*” DK2 method in just about 20 seconds. For four months there was no recurrence of the injury, which surprised me, let alone the player. Moskwa had another injury after two months of training. We also treated this injury by contactless quantum energy, and complete recovery occurred after two days.

In addition, the training was based on strengthening the players’ physical, mental and spiritual capacity, using vibratory connections. An important role was played by music therapy, which consisted of listening to texts and melodies written by me and mainly sung by Igor Herbut. an

outstanding singer of the younger generation. I would like to emphasize that the quantum treatment of music therapy is a very complex, but in practice quite a simple process. My many years of research suggest that a positive impact depends not only on the melody and words, but also on the performance, in particular the ‘healing’ voice of the singer. And such is a voice of Igor Herbut. The process typically involves repeatedly playing songs and the players, who like particular melodies, listening to them. However, listening to some songs must be avoided for a number of reasons. There seem to be a conclusive relationship between the quality of radiation of each chakra and ‘demand’ for certain musical vibrations.

Tomasz Mokwa, and the other participants in our common training (training used to be almost always on an individual basis) were particularly interested in relaxation and enhancing meditation techniques, which were often devised and performed by me as well. The players lay in a supine position doing breathing and consciousness exercises previously prepared for the purpose of these classes.

In both the lyrics that I wrote spontaneously and in the created or modified meditation texts there were conscious or perhaps unconscious archetypal references and memories. The greatest attention was paid to the archetypes associated with childhood, youth and family life and the mystery of existence.

Tomasz Mokwa on his own initiative practised some additional techniques including The Code of Healing [Loyd, Johnson 2012]. I realized that I was dealing with a prospective great player, which I told him. After 6 months’ quantum training, he started playing in the top league, on the “Piast” Gliwice team.

Another such a talented player was Krzysztof Bodziony, a defensive midfielder, the best scorer on the scoreboard. He differed from Mokwa in his higher intrinsic activity and a greater desire for immediate success. He played very actively and tenaciously. So he often suffered from numerous injuries. In his statement, Bodziony wrote about the results of the training in these words: “I have fewer injuries, more energy and enthusiasm for the game, and faith, confidence and belief in victory and my good performance. The meetings with Professor Pasterniak were remarkable, and his every word and piece of advice accompany me every day”. Bodziony saw the multilateralism of quantum training, though he rightly understood this workout in the context of life lessons. I worked with this player only for two months. He is currently playing for GKS Katowice.

An interesting personality was Jakub Kosiorek, a “Flota” Świnoujście reserve goalkeeper. He was

only 20 years old and it seemed to me that initially he treated training somewhat superficially. Later, however, he proved to be a very conscientious player and he even demanded additional training meetings. We managed to remove a very serious injury, which he had suffered during a match. Here is the proof of this process: "I declare" Jakub Kosiorek writes, "that after brief treatment by Prof. Pasterniak the pain in my back and spine that I have had for about a week, completely subsided and until now (three weeks) has not showed up". It was written two months ago. In recent sparring matches before the new season the player has not missed a single goal. He was participating in tests in Great Britain.

Michał Stasiak, an almost 30-year-old player, reported to me only twice, and more specifically, at the request of coach Baniak. I tried to cure him<sup>3</sup> as soon as possible. My diagnosis revealed and was confirmed by the player that he suffers from pain in his left calf.

The pain is so severe that it prevents the player from kicking a ball without pain. Treating his calf was complex. We started by listening to a piece of music, which through its vibration (also spiritual) activated the player's physical dimension and he felt some improvement (approx. some 50%). We also used the "*quantum touch at a distance*" method, where there was an even more marked improvement at the site of the pain. The player said, however, that he would not be able to actively participate in training and matches, because the remains of the injury did not allow him to do so. After a week, he volunteered again, with the injury still unhealed. We repeated the methods previously used, supplemented with placebo techniques and elements of the healing meditation devised by me. Unfortunately, the injury persisted. It was only after subsequent treatments, including meditation, that the player could actively participate in training and matches. What the reason for his healing was, it is hard to say, because he did not report to me again.

Similarly I only occasionally provided assistance to Darko Briakow, a goalkeeper from Slovenia. He visited me twice and after just our first meeting his aching thigh was cured. I used music therapy and quantum touch at a distance, and because I had the opportunity, interaction through miniczakras<sup>4</sup>.

Coach Bogusław Baniak also participated as a patient in a single meditative treatment of my

design. He stated that this procedure significantly calmed his nervous system and increased his physical, mental and spiritual fitness<sup>5</sup>.

**WJC** – 4) And what does the problem look like, in terms of your theory and practice of visualization and affirmation?

**WP** – That is a very good question and is just what I wanted to talk about. Of course, the first and the second techniques were used and I still often use them. It is the easiest way to apply visualization techniques, as their performance and impact are easy to grasp intellectually and are not difficult to use. I particularly recommend this technique to goalkeepers, but not only them. Along with affirmation technique which are more difficult to understand and use, I tried to work on exploring the possibilities of controlling the ball through the goalkeeper and other players. However, I will not speak about it yet, although there is a possibility of a positive solution to this problem.

**WJC** – 5) What are the differences between the different concepts of meditation?

**WP** – This is a very important question. To my humble knowledge I have so far encountered two simultaneous concepts of meditation and quantum theory. The source of one is the power of the human mind [Dahlke M., Dahlke R. 2001; Goswami 2014b], and the source of the other is the power of the human heart [Gordon Duffield, Wickhorst 2014b]. There are researchers who also combine both bases and attitudes. According to these researchers, as well as others, meditation can be learned and trained. However, a different position is presented by the outstanding Indian thinker, Jiddu Krishnamurti, which was perhaps most widely presented in the book *Self-knowledge. About Meditation (Samopoznanie. O medytacji)* [Krishnamurti 1995]. Krishnamurti sees a relationship between self-knowledge and meditation, which is undoubtedly an important issue, but also a very difficult one. And my attempt to make the footballers understand this relationship usually ended in failure.

Meditation, according to Krishnamurti, cannot be defined because "it is the end of thoughts," and only "then opens up another dimension, beyond thought, beyond time" [Krishnamurti, 1995: 79]. In this thinker's opinion, "Meditation is one of the greatest, perhaps the greatest art in life that you cannot learn from anyone else. Therein lies its beauty. It does not have any technique. Thus, it does not require a teacher's authority. When you learn

<sup>3</sup> I treat holistically the player and his physical, mental and spiritual dimensions. The injury of one dimension automatically weakens the possibility of effective training in another dimension.

<sup>4</sup> The authors know another case of improving self well-being of a person with chest cold as a result of contact with a minichakra.

<sup>5</sup> The Annex contains a statement of the President of the club.

about yourself, when you observe your behaviour – when you watch what you eat, what you say, how you gossip, hate, envy – when you are aware of yourself, but without judging, without satisfaction and resentment. That is when meditation starts” [Krishnamurti, 1995: 79-80].

Evaluating is replaced by Krishnamurti with ‘understanding’ of oneself. And understanding is the best ethical and practical therapy. To understand deeply one’s own mistakes, is to get rid of them. This is a valuable tip for the teachers of trainers who frequently “ensnare” their own students and sometimes require absolute obedience without understanding or before they explain their own views. One of the greatest enemies of man, as Krishnamurti said, is self-centredness, because it hampers the way to meditation and to understanding ourselves. “Meditation is a difficult art” he writes, “It requires high discipline, not submissiveness, obedience or imitation, but the discipline of constant attention directed towards both the external objects, as well as to one’s own inner-self. Meditation does not mean isolation, but participation in everyday life, requiring cooperation, sensitivity and intelligence. Devoid of a foundation of fair, ethical conduct, meditation becomes a refuge and then it has no value. Honesty and integrity in demeanour do not involve obeying the moral principles of society they ARE however freedom from envy, greed and lust for power that breed hatred. You can get rid of them not by an act of will, but through the mind and self-discovery. If we are not aware of the activities of the ‘ego’, meditation is nothing more than a sensory stimulus” [Krishnamurti 1995: 81].

To conclude these brief considerations, I would like to emphasize that players, and not just the footballers<sup>6</sup>, eagerly use a variety of methods, which undoubtedly prevent monotony and boredom that may be part of some training processes. The hardest part to understand is the truth held by J. Krishnamurti that meditation is not unique, but accompanies different daily activities; thus it is accessible, and yet it performs many functions that can be called motivational, therapeutic, prophylactic, cognitive, educational and elating (*ananda*).

**WJC** – 6) What research (research fields) are you planning in the near future and beyond ?

**WP** – Your question, Professor, refers to a very important issue that I can divide into two categories: continuation and expansion of the topic, and research methodology. As can be seen, I am inclined

to develop a completely different methodology from the modernist and post-modern methodologies. The biggest difficulty concerns the understanding of the ‘quantum self’, ‘the highest states of consciousness’, value, ‘non-locality’, eternity etc.. These are, as we know, transcendental terms and concepts and almost inaccessible to logical knowledge, yet extremely important in solving quantum applications in the humanities, cultural studies and in general physical education sciences.

This direction, or rather directions will, if possible, be continued and augmented, with particular focus on the health issues of students and athletes, on music therapy, or more broadly, ‘art therapy’ (the medicinal functions of art). Optimism in this area is justified by an increasing number of professors and other scholars and activists who recognize the importance of these studies and participate in them.

**WJC** – Professor Pasterniak, thank you very much for the interview and description of your research.

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<sup>6</sup> Prof. Pasterniak has got about one hundred declarations of curing people from all kinds of diseases.

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## Appendix

The opinion of the President of the "Flota" Świnoujście, football club, *mec.* Edward Rozwałka on Prof. Wojciech Pasterniak's psychological training carried out with the Club's players of the club.

Keen interest in using quantum physics in football training has been shown by the President of "Flota" Football Club in Świnoujście *mec.* Edward Rozwałka. As an attentive observer he noticed improvement in the players' game after every workout inspired by quantum theory. He also has a deep belief in the great importance of psychological training, as an essential component of quantum applications. In his opinion, thoughts and emotions can promote and intensify or weaken the energy level of an individual and of collective training.

## **Fizyka kwantowa a trening sportowy. Możliwości wykorzystania osiągnięć fizyki kwantowej w piłce nożnej**

**Słowa kluczowe:** sport, trening, trening duchowy, jaźń kwantowa, uzdrawianie

### **Streszczenie**

Perspektywę teoretyczną daje tu nowy systemowy paradygmat, zgodny z wiedzą wynikającą z ustaleń fizyki kwantowej. Autorzy nawiązują także do wybranych nurtów psychologii i do teorii treningu sportowego. We wprowadzeniu ukazany został aktualny stan wiedzy naukowej w zakresie podjętego problemu naukowego.

Celem głównym badań było sprawdzenie możliwości skutecznego wykorzystania osiągnięć fizyki kwantowej w treningu piłkarskim. Chodziło o stwierdzenie, 1) czy aplikacja fizyki kwantowej do treningu piłkarskiego jest możliwa, czy

też niemożliwa. 2) Jakie składniki tej teorii najlepiej dają się przyswoić przez zawodników? 3) Jakie bezpośrednie i pośrednie (długodystansowe) efekty przynosi piłkarski trening kwantowy w wymiarach fizycznym, psychicznym i duchowym, w przypadku zgłoszonych dobrowolnie zawodników?

Materiał i metody. Główną techniką badań było studium indywidualnych przypadków – zawodników klubu piłki nożnej „Flota” Świnoujście (N = 6). Przeprowadzono także wstępną analizę treści literatury przedmiotu. Natomiast formą przedstawienia treści naukowych dociekań i refleksji o uzyskanych efektach treningu kwantowego, jest tutaj wywiad bezpośredni. Wyniki badań i wnioski. Opisano zastosowane metody terapeutyczne i treningu kwantowego. Stwierdzono bardzo dobre efekty zastosowanego treningu kwantowego. Jedyne w jednym przypadku nie udało się uzyskać wyraźnej poprawy zdrowia i sprawności psychofizycznej. Wskazano na konieczność kontynuacji oraz poszerzenia tematyki badań i ich metodologii.