

ATTITUDES OF PHYSICS TEACHERS TOWARDS PARANORMAL PHENOMENA

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Abstract

Five attitudes of physics teachers towards paranormal phenomena are separated in this article. These are the following attitudes: hostile, critical, pragmatic-neutral, positive and enthusiastic. All of them are described in this article. Circumstances concerning selection of the different attitudes also are discussed.

1 Introduction

Before political changes of Poland in 1989, the censorship, as a general rule, withheld publications concerning bioenergotherapy or clairvoyanting as inconsistent with the officially propagated at that time the material outlook on life. Therefore, at that time, publications regarding these subjects were issued in the so-called underground printing and were available only for few readers [1, 2]. Currently, almost in every bookshop and in many kiosks one can find a rich selection of literature concerning phenomena exceeding fields investigated by modern disciplines of life sciences [3, 4, 5]. Many TV programs such as "Unbelievable" broadcasted in the Sunday evenings by TVN are devoted to these phenomena. The list of the mentioned phenomena is very extensive and involves e.g. bioenergotherapy, telekinesis or divining phenomena [6, 7, 8]. Generally, these phenomena are called paranormal [9]. It is a fact that the information concerning these phenomena reaches students learning physics and it arises interest. As a result of this interest, students ask their physics teachers questions concerning paranormal phenomena. Teachers then find themselves in difficult situations since didactic resources lack materials concerning this subject.

As a matter of fact, a teacher can totally ignore these questions (and indeed he/she does it sometimes) but it is not a good idea due to two reasons. First of all, most of the students regard the teacher as the authority and expect a clear answer from him/her. Secondly, a duty of realization of aims of education which are included in the educational program principles such as: "understanding of phenomena of the surrounding world", "consciousness of existence the laws ruling the micro- and macro world and resulting from them philosophy-nature afterthought", "preparing to rational perception and evaluation of information, and brave undertaking a discussion and formulating opinions", implies a need to take a position in the discussion on problems on the edge or beyond the scientific cognition [10].

It should be also remembered that avoiding or forbidding certain topics amplifies interest in them according to the known saying of 'forbidden fruit'. Therefore, it is useful to present, at least in a broad outline, characteristic attitudes towards paranormal phenomena which would allow physics' teachers to have orientation in this

field and encourage them to thinking over the whole subject.

2 Characteristic attitudes

The attitudes presented in this part of the article are selected on the basis of interviews conducted since few years with physics teachers active in profession.

- 1 **Hostile attitude.** People exhibiting such an attitude think that paranormal phenomena do not exist because they have not experienced them themselves and in their opinion nobody else experienced them either. They also believe that all information on the existence of these phenomena is harmful. They claim that such the information is false and fabricated only for knowingly misled and obtaining benefit which relies on making profits or gaining respect for persons who attribute unusual properties to themselves. People with other points of view are treated disrespectfully or even hostile by supporters of this attitude.
- 2 **Critical attitude.** According to individuals characterized by this attitude, paranormal phenomena are artifacts or effects of an accidental influence of various and not fully explained factors or side effects. In these phenomena there is nothing supernatural and they have totally material character. Having sufficiently accurate information on the observed effects, and using commonly known rules of life sciences, one can explain paranormal phenomena in a completely rational manner, like it is a case for others phenomena being objects of scientific cognition. Hence, information on paranormal phenomena should be subject to a thorough verification, and a discussion should be made with the supporters of the supernatural character of these phenomena.
- 3 **Pragmatic-neutral attitude.** The most characteristic features of this attitude are a lack of emotional approach to paranormal phenomena and all information relating to them, with an admission of a possibility of the practical application and analysis of at least some of these phenomena. Individuals presenting such an attitude do not actively participate in a debate

on the mechanism of these phenomena. Instead of consideration whether the paranormal phenomena exist or not and whether their explanation requires exceeding commonly known physical principles, they believe that the putative existence of these phenomena could have positive practical significance. For example, bioenergotherapy can lead to improvement of health of patients subjected to this kind of treatment. Indeed, it is not important matter whether the observed benefit is related to an unusual type of unknown type of energy, or to another manner.

4 **Positive attitude.** Individuals revealing this attitude are convinced, that paranormal phenomena really exist. They also believe that there are gifted people having unusual properties which explain the existence of these phenomena, e.g. moving objects remotely - telekinesis or an accurate foresight of events of future without senses - precognition. They think also, that the special kinds of energy are involved in these phenomena, e.g. "bioelectronic energy", "cosmic energy", "bioplasmatic field energy". As regards a cognition aspect, they present a view that we can investigate these phenomena, at least partially, by life sciences, and according to that they use models and theories accepted by these sciences, trying partially adapt them for their needs by introducing for example additional concepts or definitions.

5 **Enthusiastic attitude.** Supporters of this attitude have a very positive approach to paranormal phenomena. They believe that these phenomena really take place and they or their relatives and other well-known individuals experienced them. They are also convinced that these phenomena are of supernatural character and that they occur due to a special kind of beings called usually spiritual ones. These beings are superior to material beings and do not fulfill the common nature laws and limitations, e.g. they can move with the speed higher than the speed of light in a vacuum. Due to above reasons, models and theories of life sciences are completely useless for describing paranormal phenomena. People who demonstrate this attitude treat people with different outlook on paranormal phenomena in rather disrespectful or neglecting manner.

3 Circumstances for attitude choice

A logically understood step after characterization of typical attitudes toward paranormal phenomena is trying to answer the question what rational assumptions could justify a choice of one of the described attitude. In order to do that, it should be presented the most important results of the scientific research concerning the paranormal phenomena. Such field of the research was originated in the end of the 19th century. In 1882, The British Society of Parapsychological Research was founded. They were dealing with, among other, telepathy and telekinesis. A few years later, a society dealing with similar field of interest was founded in The United States.

Investigations performed by the institutions mentioned above remain however in a huge contradiction with the guidelines of scientific correctness and a good practice. For example, the results being not concordant with the hypothesis assuming the existence of the particular phenomenon, are omitted [11, 12]. Using the similar manner, it is evaluated an efficacy of unconventional treatment, e.g. a psychotronic treatment or the treatment by the use of permanent magnets [2, 13]. In the publications reporting the results of these methods, only the results are given which prove the total recovery or the significant improvement of the health after the use of the method being in question. These publications, in their body of text are close to advertisements and are clearly different from reliable scientific publications or the information concerning, e.g. utilizing the magnetic fields for therapeutic purposes [14, 15]. The above considerations, are supported even by sensational subtitles of some publications: "The first in Poland, modern and thorough study of human aura performed by the world-wide famous physicist working for NASA, The World best-seller of unconventional medicine", "The gentle but effective recipe for keeping the balance of the health in human body" [3, 13].

Authors of some publications concerning paranormal phenomena try to explain these phenomena by using knowledge and physics' laws. It is fair to say, that then they show the remarkable ignorance and make the sound mistakes. This statement is supported by several examples: M.Sc., Eng. Jerzy Woźniak believes that "earth radiation", as he defines it, is responsible for divining phenomena. The origin of this radiation is explained by him as follows: "As it is known, in the core of The Earth, the reactions of thermonuclear character take

place. The enormous amount of this matter is utilized as a fuel for the atomic furnace, and the products of the combustion are moved toward the surface" [16, p. 5]. Authors of the cited book, attach the vocabulary to the book concerning a subject on the magnets treatment where we can find among others: "electromagnet - a device which generates magnetic field, consisting of two spools jointed by a soft iron bar through which electric current flows", "a pole - every point which is the most distant from the center of a magnet or an electric circuit", "lines of induction - a graphic presentation of magnetic energy moving around magnet", "gauss - the unit of the measure of magnetic intensity generated by the magnetic pole in a distance of 1 cm from this pole" [13, p. 156-157]. The same book contains many drawings showing wrong shape of lines of magnetic field (see for example p. 64-65). Further quoting similar examples from other sources would be just a waste of time.

Some group of authors of publications concerning paranormal phenomena, in their consideration base on physics and do not make such glaring mistakes but try to create a confusion in a different way. These authors quote various facts in order to evidence the occurrence of such the phenomena. They also put forward many hypotheses on the reasons of the phenomena or make the readers put forward them by themselves. These hypotheses lack only the most simple and the most justified ones. Here is one example of such the approach. G.H. Stine describes a structure and an operation of so-called energetic wheel, i.e. a very light rotor made of the folded sheet of a thin paper, supported on the point of the needle. According to the author, the wheel can be moved by a willpower by closing hands to it and wishing it to rotate. Indeed, after closing hands this wheel sometimes rotates but the real reason of this phenomenon is the convection move of the air heated by a heat radiated from hands. By contrast, the author put forward various hypotheses, e.g. assuming the changes in a distribution of hands' surface electric field caused by willpower, or assuming the involvement of "brain waves" [8, p.70-77].

Paranormal phenomena were also subjected to reliable scientific investigations. Seventeen years ago wide and carefully prepared studies were performed in Germany. The study aimed a verification the ability of detecting water veins by water diviners. Over 500 individuals were enrolled to this experiment, which assured a sufficient

statistical validity of obtained results. The results showed that almost all the examined subjects having 10 trials each, were unable to locate a position of a pipe with flowing water (which was placed only 5 meters under the floor on which the 'investigators' were standing on). Statistical analysis revealed that the distribution of the obtained results was totally random. Slight accordance of foresights obtained by three individuals can be also explained by a statistical deviation from the random result [17]. Also others investigations of divining abilities were carried for example in 1917 in United States, in 1979 in Italy, in 1992 in Germany and also in Poland - in years 1981-83 by Jerzy Stobinski in Cracow and in late 1990s by prof. Henryk Szydłowski and dr Przemysław Kiszowski - physicists from University of Adam Mickiewicz in Poznań, did not reveal such abilities.

Reliable investigations revealed that many unusual phenomena and abilities considered as paranormal, for example moving objects by willpower (telekinesis) or signs on corn fields, were the result of more or less clever deceptions. Here is one example of that coming from my own experience. At high school, there was one impressing colleague in our class who was able to read by his willpower any words written inside the crumpled piece of paper. One person (let us call him the player) wrote down a text known only for himself/herself on a small piece of paper then crumpled it into a ball. Subsequently, the player put the ball on different squares of a chessboard-like the sheet of paper with all the alphabet letters drawn on the squares. Some letters were recurrent and the colleague gifted with unusual properties uttered one of them. When the ball was put on one of two recurrent letters, for example on C, the player was informed that he/she selected a wrong letter and the colleague shifted ball on the second C letter by himself or commanded this rearrangement to the player. After a dozen or so such movements the colleague faultlessly read the text. The trick was based on a fact that during shifting the ball with the text was substituted the ball by a new identically looking paper ball. The colleague did it by shifting the ball when it was put on incorrect letter. During further shifting of the second ball, he discreetly unfolded a piece of paper with the text under the table at which the preoccupied participants of experiment were sitting, and he thus read the text. Subsequently, in the following shifting of the second ball to the square with recurrent letter, imperceptibility

exchanged the balls again and after many shifts - serving for creating serious atmosphere as well as for fatiguing the player and making a deception more difficult to reveal, he announced the text.

A much ado about paranormal phenomena is made by mass media and especially by TV. A several months ago the TVN station twice transmitted a program from the "Unbelievable" series. The program showed two patented inventions of Mr Łągiewka from Kowary - a device for braking and propeller, which operation modes were claim to "break" the physics' laws. The former of the inventions putatively could save hundreds of thousands of human lives, e.g. in car accidents, the latter opens a new era in the field of a drive of all vehicles, particularly flying vehicles. The inventor was presented as the self-educated genius, which was not understood by scientists or even disrespected by them. The next day after the program, using the internet database of Polish Patent Office, me together with two patent attorneys found that the former invention is not patented yet and its mode of operation is undoubtedly in the accordance with the physics' laws [18]. However, a common practical application of this patent is highly problematic - let us imagine a situation that every car is equipped with three brakes - each located on one side of the car and each having a dimension of one third of the car's dimension. We did not find any information regarding the latter invention, despite long search. Ingenious Mr. Łągiewka is one out of six inventors of the invention but it was not mentioned in the program. The above facts altogether suggest that the invention belongs to the so-called "inventing folklore" involving e.g. a device for automatic tying the shoelaces or washing machine allowing also washing dogs and cats.

4 Recapitulation

To summarize the considerations presented in this article it should be stated that the results of reliable studies performed so far, did not confirm the existence of paranormal phenomena. The phenomena, believed by some people to be paranormal, in fact are artifacts or combinations of side effects associated with normal phenomena ruled by known nature's laws. Many paranormal phenomena result from a coincidence which can be described by statistics and frequently paranormal phenomena could be explain by illusionism or even ordinary

deception. The example of the latter could be a detection of a deception of Uri Geller who demonstrated bending spoons using willpower. The ability of correct foresight of certain events, exhibited by few individuals, can be explained by their outstanding abilities for intuitive thinking but not the effects of special brain waves or bioenergy [20]. Therefore, rational arguments suggest adopting the attitude towards paranormal phenomena, which is described in this article as critical attitude. Hostile attitude, presented publicly by some scientists, is rather not recommended, since we should respect people having other beliefs. The arguments in favor of the critical attitude are also attitude of The Roman Catholic Church. As it is known, in order to be the saint an individual has to do a miracle. The Faithfuls report many events (sometimes counted in thousands) which, in their opinion, are miracles. After thorough studies performed by special boards, the vast majority of the reported events can be naturally explained and thus is rejected.

It should be mentioned, however, that a selection of a particular attitude is often made in an irrational manner. In the decision making there are involved e.g. emotional factors, therefore it is difficult or even it is impossible to justify any particular choice. For example, people who evidenced the health improvement themselves or in their relatives after bioenergotherapy treatment are deeply convinced about efficiency of such the therapy. They reject rational arguments, despite a true reason of the observed health improvement could be a mobilization of the organism to fight the disease resulting from an effect of psychological factors or self-healing but not a special transmission of energy by bioenergotherapist. Among others, it could be a reason that one can find individuals having outstanding scientific achievements and presenting positive or even enthusiastic attitude towards paranormal phenomena. As a curiosity, it is worth mentioning that the excellent Polish physicist Mieczysław Wolfke, co-author of holography and co-discoverer of superfluidity of helium, belonged to this group and participated in seances of the famous clairvoyant - Ossowiecki [21]. Some contemporary physicists also try to perform far-going extrapolations of known scientific theories, e.g. quantum mechanics in order to make them explain the existence of the human, the love, the ghosts or even the whole Universe and paranormal phenomena [22]. So far, such ideas find few supporters and scientific

society evaluates them in a very critical way.

5 References

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