

THE OLYMPIC GAMES AND THE FUTURE OF MANKIND

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It is a well-known fact that sport, in its diversity and with its many different aspects, is a characteristic phenomenon of contemporary civilization.

The intensive development of sport in all the continents of the world is an important indication of a positive change in the economic, social and cultural life of modern society. The modern Olympic Games, born on the threshold of the XXth century, marked an important turning point in international sport from the outset, reflected in the words of Pierre de Coubertin "Oh ! sport - thou art peace", becoming the symbol of the strengthening of ties of peace and friendship between peoples.

It is important to stress that the Olympic Games are not just a sum of world championships in different sports but that they are a particular combination, an organic fusion of purely physical and moral competition at the highest levels with the loftiest ideals of mankind.

That is why there are not other competitions which affect as much as do the Olympic Games the feelings and emotions of thousands of millions of spectators, whether they are watching the different Olympic contests in the stadia or in front of their television sets. It is no exaggeration to say that once every four years, for a period of two weeks, thousands of millions of people "participate" in the competitions with the Olympic sportsmen, following closely the whole range of movements performed by the most outstanding athletes, swimmers, gymnasts, weightlifters, basketball players, skiers, figure skaters, ski-jumpers, etc. In this way, they derive emotional satisfaction and significantly improve their consciousness of movement in the human body.

Today, the Olympic Movement, alongside the training which leads up to the Games, also includes extensive cooperation in the economic, cultural, spiritual and artistic spheres, etc. That is why the profoundly social nature of Olympism and the wide range of human activities which it involves and

influences, make it one of the most significant phenomena of human life by virtue of the number of people it concerns and the strength of its general impact.

Whilst reviewing the basic nature of Olympism, I should also like to draw your attention to certain less obvious aspects of Olympic sport, the consciousness of which can reveal not only possibilities of reaching higher performance levels but also other facets of sport which make it vitally important to the progress of mankind.

Today's civilization is characterized by an ever-increasing pace in all spheres of life. The scientific and technological revolution which has developed rapidly over the past decades has been accompanied by ever higher demands made on human beings by the constantly improving techniques of modern industry. Because of this scientific and technological revolution, there has been a qualitative change in the nature of work : difficult and labour-intensive operations have been replaced by tasks which, though physically relatively easy, require greater coordination of sequences of movements. This speeds up the pace of technical operations, substantially increasing the psychological pressure on the organism. The same trends can be observed in the creative and intellectual spheres. The ever increasing flow of information absorbed by man today and the accelerated pace of day-to-day life constitute severe psychological stress.

The ecological changes in the environment are another complex problem facing mankind. As a great number of facts indicate, the closer humanity comes to the XXIst century, the wider the gulf becomes between the growing demands of the scientific and technical revolution, with the changes it has brought about in human activities, and the traditional ideas of centuries, which were based on biological and social norms in relation to human potential in a range of different activities.



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The observations of specialists confirm that, today as before, most people during their life time do not make correct use of their own natural resources or take maximum advantage of their organic potential. At times, physical and moral resources are not developed or are wasted. In the final analysis, this is a loss to mankind, reflected by the fact that some people have a working life which is too short, others have their professional life extended over an unjustifiably long period, and yet others fail to discover their talents altogether. Consequently, on the threshold of the XX1st century, we are faced with a situation where we have vast reserves of physical and intellectual potential in the most varied spheres of human activity and at the same time we are wholly ignorant of how to tap these supplementary reserves and put them to use in adapting to the transformation of our conditions of life.

It is therefore the very logic of life that is compelling us to correct the conventional wisdom on the potential of a healthy human being.

The trend towards intensified activities in contemporary life makes it necessary to examine man's reserves of potential in relation to a number of questions of paramount importance for modern natural science. Man's consciousness of his true potentialities and the laws governing their optimal development will permit a new level of quality to be reached in the modern concept of human potential and will establish a fundamentally new approach leading to a re-examination of many traditional ideas in pedagogy, medicine, biology, psychology, ergonomics, the physiology of labour and many other sciences concerned with the study of man at various stages of his life.

Since the question of how to optimize human potential is now an object of scientific study, much has already been achieved in this direction. Studies in the psychology and physiology of labour, in the fields of ergonomics, design, architecture, medicine, biocybernetics and other new scientific disciplines have already provided concrete data on the reserve potential of man today. However, in spite of the mountains of data of truly Himalayan proportions accumulated to date, our knowledge remains fragmentary and superficial. Why is that the case? This is a question we have been trying to answer since the XVth Olympics through all these years of theoretical and experimental research under the guidance of the founders of our national science of sports physiology and biomechanics, A. H. Krestovnikov and S. A. Semionov. Right from the first stage of experimental research, we worked on the hypothesis that it was pointless to attempt to obtain scientific data on man's reserve potentialities from individuals insufficiently prepared physically, mentally or as regards motor coordination. In fact, given a low level of development of the various systems in the human organism, such tests could create stress leading to functional disorders, which would prevent the selective study of individual functions in conditions of intense effort.

Since time immemorial, man has tried to uncover his hidden potentialities. Unfortunately, however, in this age of atomic energy and computer techniques, of spectacular flights into outer space and great social transformations, science as yet only possesses a superficial knowledge of all the capacities a human being holds in reserve. Yet this is an issue which has long interested researchers. Important experimental and theoretical data on the human race has been accumulated over the last hundred years. In the 60's. with the advent of ultra-modern techniques, it became possible to carry out investigations at the cell and subcell level. Nevertheless, up to now, the data acquired has not produced the hoped for results.

During the mid fifties, we worked on our concept of comprehensive investigation of human reserves based on the study of individuals in a state of intense effort requiring a high level of physical, mental and motor preparedness. Our models for performances under extreme pressure were taken

from championship sports. During almost thirty years of research, several generations of outstanding sportsmen from a variety of disciplines participated, including Soviet, European and world record holders and Olympic champions. During this period, a whole series of changes and clarifications in method and theory evolved, which enabled us to establish the following conclusions. The basic reason why contemporary knowledge of the true potentialities of the human being and the laws governing their optimal use, in relation to each individual's state of development and preparedness, is linked to the shortcomings of existing methodology. For many centuries and even in our times, natural sciences have traditionally based the study of man on the functional approach. This meant that in the study of the systems and organs of the human body, the greatest emphasis was placed on the study of their function. This method generally based its research on the study of the "average" man in statistical terms in normal every-day conditions.

The functional approach can only provide very general information on the systems of the human organism ; it gives practically no indication of the laws governing their optimal functioning as applicable to each individual, and still less of the reserves of potential as yet untapped.

Research based on the highest level of competitive sports has shown that different aspects of sport can provide models for practically all the functional characteristics of the human organism in every kind of intellectual and physical activity.

At the same time, we have found that in order to establish the universal laws governing an optimal regulation of the human system, we need to study sportsmen who are naturally gifted in the form of activity under consideration and who have undergone years of intensive and specialised training perfecting their natural talents, reaching a point of development where their performances lie within the sphere of universal laws. It must be emphasized that even in the case of top level sports, only the record-holders and champions of today are beginning to reach this stage, and even then not in all sports. That is the reason why scientific data obtained from world champions and record-holders of the past did not provide results of universal validity as was hoped.

Not only champions of top level sport of today and in the future can serve as models for "anthropomaximological" research, but also any

individuals subjected to severe professional selection, who exercise a specialised activity under high pressure for a large number of years and have to display certain qualities to a very high degree, for instance strength, coordination, courage, etc. (supersonic pilots, steeplejacks, etc.). There is however every reason to maintain that it is the outstanding athletes who today come closest to the spheres governed by the highest universal laws. This can be best explained by the fact that high-level sport implies the choice out of millions of those individuals who, after thousands of years of evolution and natural selection, have been endowed by nature with a particularly high level of functional development, and the long and intensive training of these individuals to enable them to reach the absolute limits of human potential. So far, no other sphere of human activity has reached these standards.

The introduction of the study of the entire spectrum of reserve potentialities in a healthy human being, based on models from high level competitive sports, has led to the formulation of a new scientific trend, which we have named "anthropomaximology".

The science of anthropomaximology (AML) examines areas of maximum physical, mental and intellectual reserve potential in "homo sapiens" under intense pressure and seeks to establish the universal laws which govern the optimum use of these reserves of potential at all stages of individual development and preparedness.

AML originated with the combination of many scientific disciplines : pedagogy, biomechanics, psychology, physiology, biology, cybernetics, ergonomics and others. AML aims to establish the extent of the reserve potential of a healthy human being who is productively employed in order to enable each individual to increase his capacity for study, work and creativity. AML defines how a human being can put to use his reserve potentialities so as on the one hand to reach absolute records in fields such as top-level sports, astronautics, supersonic aviation, deep-sea diving, etc., and on the other hand to reveal the "mysteries" of the organism under super-intensive pressure and achieve an understanding of the universal laws which will enable the ordinary man to maximize his own natural reserves in relation to his specific activity and his individual development and training.

One salient aspect of AML is that it advocates intensified research on individuals as opposed to the

establishment of average values from the largest possible number of people.

This method does not, however, imply a standardized evaluation of people. When an individual becomes conscious of the universal laws which govern the use of reserve potential, he has to work out his own style of activity in order to reach a new quality of achievement.

Anthropomaximology is thus a fundamentally new methodological approach to the study of the potentialities a healthy human being holds in reserve. In other words, without the data provided by AML, no progress can be made in the scientific study of the nature of man.

The further in-depth development of the methodology of anthropomaximological research will, in time, result in the compilation of enough fundamental data to permit the establishment of a definite system of universal laws defining the characteristics of a vast range of human intellectual, physical and motor capacities at various stages of development and in various types of activity. With the aid of computers, this science will enable researchers to design optimal practical solutions of use to groups as well as individuals from the point of view of physiology of labour, ergonomics and vocational and creative training, helping them to enhance the professional skills of workers and develop the best possible recreation and leisure programmes for healthy human beings.

Anthropomaximology will encourage the development of fundamentally new methods for the prevention and cure of a large number of diseases and will provide the basis for fundamental research concerning the proper medical care of people in good health.

The experience of the past few years has shown that scientists concerned with anthropomaximological research will be able to fundamentally reappraise man's potential for speeding up the learning process, increasing his work capacity and extending his creative life.

In conclusion, I would like to return to something I already mentioned in my report to the plenary session of the World Scientific Congress in Tbilissi in 1980 : "Sports in the world Today". For a long time now, humanity has been striving to devise global projects for the well-being of man. So far, in spite of many tempting ideas, nothing has come of these attempts. Such projects require colossal human and material resources and, above all, universal interest. Judging by discussion on the idea of anthropomaximological research with leading scientists in Europe, the Americas, Asia and Africa, it is obvious that anthropomaximology could already provide a practical scientific basis for the implementation of the first worldwide project to develop the reserve potentialities of mankind based on the study of intense activity using the modern Olympic Games as an example.

Why the Olympic Games ? For the following reasons :

1. The Olympic Games of today are the only multi-sport competition at world level which includes sports covering the whole range of human muscular activities.
2. Olympic champions, after many years of Intense training, provide a demonstration of the highest level of athletic fitness and it is at the time of the Olympic Games that they are in peak form.
3. Because of the prestige of the Olympic Games and the social importance of anthropomaximological research for mankind, it should be possible to voluntary the participation of the world's most eminent researchers in various fields and the leading manufacturers of scientific research instruments in the project outlined above.

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