SOME ASPECTS OF THE EVOLUTION OF INDIVIDUALS AND PEOPLES IN RELATION WITH THEIR PHYSICAL EDUCATION

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I — The general theme of the *III Luso-Brazilian Congress of Physical Education, «People's Physical Education according to their degree of Evolution»*, is extremely interesting and also very difficult to deal with, at least for the author of this *essay*. I shall therefore limit myself to the study *of some of its aspects*.

In fact, the problem involves necessarily, as premises to the conclusions to be arrived at, a varied knowledge relating not only to the *typical human being*, but principally to the enormous variety of the *concrete human beings* of both sexes who are the product of *heredity*, of the physical and social *milieu* and of *Education* (spontaneous or informal and organized or intentional) that make up the different social groups.

At first, I wanted to study only the pedagogical, technical and organizing aspects, preceeding them by a short introduction referring to fundamental notions which would justify my ideas concerning *physical education* already a subject of courses, lectures and publications (1).

As what would be only an introduction became too extensive relatively to what is usual and suitable in *congresses*, I decided to give preference to some theoretical bases of *physical education* less divulged which I shall directly refer to notions of pedagogical and technical order. I recognise,

(1) In this essay, I shall refer above all to the articles published in the *F. I. E. P. Bulletin*.

however, that specialists in the basic sciences to which I am going to have recourse, have much more authority to deal with them.

II — To make myself better understood, it seems to me suitable to establish from now on, a simplified terminology relating to concepts of *evolution* and of *physical education* which appear in the heading of this work and other concepts that are intimately connected with them.

It is evident that constant changes in *creation* regarding *time* and *space,* are being produced.

These *changes* are relatively very slow in their cosmic and phylogenetic aspects, slower in the human *ontogeny* than in the animal *ontogeny,* sometimes sudden in social life, perhaps because the free will intervenes in it.

The fact that the growth of the human being is slower than that of animals, with the apparent finality to give him greater capacity and preparation for more complex missions, is a biological directive to be taken into consideration, specially in *physical education.*

Excessively rapid changes do not seem favourable because their different aspects may not be duly synchronized in view of their mutual adaptation and to that of their environment without disturbances or shocks. A *great development* in certain parts, will have often more disadvantages than advantages when it is not accompained by complementary *developments.* It is what happens with a great *economical* development not accompanied by *educational* development, with a great practical development without corresponding theoretical development, with muscular hypertrophy accompanied with intellectual insufficiency, etc. Too great *mutations* are terrestrial or social catastrophies, morphologic deformations, etc.

III — The *evolution* of the Universe seems to present the following general aspects:

— The *inorganic* or cosmogonic *phase,* of a physico-chemical essence, is the most extensive and of a more elementary organisation.
— The *biological pre-human phase.*
— The *human* or psycho-social *phase,* the least extensive, is constituted by more complex and better organized beings, who, specially, present a more perfect centralized and co-ordinated self-control of their own activity having in view to survive as well as *superior aims.*

The chronological order to which I have referred — matter, life, psyche, spirit — corresponds to an *improvement* where the *human being,* more or less harmoniously developed from the morphological, psycho-physiological, intellectual and moral points of view, is the maximum *value* attained.

IV — The premises that the *human being* represents the most *evolved* one and that he can be changed and in his turn modify the environment in which he lives, justifies that our greatest preoccupation should be his improvement, principally during his childhood and adolescence; afterwards, it is more or less late.

Another reason why I have pointed out the more general phases of the *evolution* of the Universe, was to stress that human beings, above all those better *evolved,* are a very small minority in an essentially material world where instincts, emotions and ignorance seem to dominate. But this *minority* finds reasons not to completely submit itself to these huge forces.

Physical education should, therefore, be guided by competent people, i. e. by pedagogues, hygienists, specialized scientists, and not by simple «bench sportsmen» that make up the *majority* of persons who say they are interested in the matter. The way the former are trained shows also the *progress* attained in our domain.

V — The biological *evolution* of the human being corresponds to *ontogeny* which has some analogy with *phylogeny* which represents the *evolution* of the animal

species. Social *evolution* is studied specially in *Ethnography, History* (1), *Sociology, Social Anthropology* etc.

As *society* is made up of human beings, it is not astonishing that we also find analogies between *ontogeny* and *social evolution* taking however into account that human groups present a supplementary *quid* beyond the simple sum of their constituting elements. Thus the almost *isolated individual* to whom we owe the masterpieces of the human spirit, reacts differently than when in the *crowd* where his intellectual and moral aptitudes are more easily dominated by emotional states that are incompatible with the act of *thinking* freely and by irresponsability.

VI — Firstly, the direct product of *biological heredity* and then that of *cultural heredity* that is proper to him, the human being lives necessarily in a physical and social *milieu* that shapes him in a certain measure without altering his specificity, although it can destroy him. This *milieu* may, however, be more or less modified to his advantage. The other changes are the result of *Education* that is always based on personal *effort*.

Seeing that *sufficient personal effort* (of impulsion or inhibition) is the only *means of Education* (and of keeping fit), it is, therefore, wrong to avoid it for want of *exercise* or of *work* and by mechanization of life that is not compensated by those activities, and by excess of comfort with which the well-to-do classes surround themselves, showing for this reason serious symptoms of *weakness that begin to threaten the* so-called «working-class» for the same reason.

Thus one follows, to the letter, the physiological law of the «least effort» which is interpreted as the «law of laziness» which have more *agreeable* effects for many than the human law of the «greatest useful effort». This law can cause immediate *displeasure* although it can also be the origin of future *pleasures* only foreseen by some. Certain aspects of *nourishment hygiene* and *physical education* are in this case.

Hedonism that erected purely sensitive and primitive pleasures as the *aim* of life corresponds to the first law. Hence, the *abuse* of *games* in *Education,* of *sweetmeats* in nutrition, etc.

VII — We call *physical education* that aspect of *Education* the specific means of which (distinguishing it from its other aspects, although more or less integrating them), are «*physical exercises*» and the natural *physical* agents having in view the intentional *improvement* of the system and its *better adaptation* to the psycho-motor, normal and eventual, exigencies of life.

VIII — Now the occasion appears to define the terms *civilization, culture* and *progress* which we have to associate to the *theme* we are dealing with.

We shall give to the first one the restricted and most common meaning of *development* specially material and technical and to the second that of *improvement* of the physiological, psycho-physiological, intellectual and moral capacities. In its more complete meaning, *progress* is the harmonious assemblage of the benefits that *civilization* and *culture* may contain for the *welfare of the human being* which implies the preponderance of the spiritual values that preside over our conduct. Among these *benefits* are *health* and the *biological and technical aptitude* to respond better to the psycho-motor necessities of life, specially in emergencies.

That is to say that *progress* is not to be confounded with changes, «novelties» and fashion. It implies also the improvement of the *cultural heredity,* therefore knowledge of what has resulted beneficial or harmful in past experiences, the preservation, divulgation and general application of positive acquisitions and the condemnation of factors that showed themselves harmful.

IX — Let us take into consideration some fundamental notions on the *neuro-psycho-motor activity* through the animal

(1) *F. I. E. P. Bulletin,* N.° 3-4, 1962, p. 36.

phylogenetic *evolution* and the human ontogenetic one.

The *nervous system* is the most delicate and complex one and presents a juxtaposition of organs and functions which normally more or less integrate themselves.

To this juxtaposition and integration correspond, among others, the following facts:

1 — The decrease of the motor *specialization.*
2 — The existence of conscious *aims* for activity, not only the *exterior*, but also the *interior* ones.

1 — From *specialization* in swimming, crawling, flying, running, jumping, climbing, hanging, one passes to *multiple activities* according to greater capacities of varied kinds, specially of adaptation to the most different *environments.*

The *muscular strength* of the human being is very inferior specially to that of certain gigantic species already extinct, perhaps because their *biological specialization* referred to their enormous strength and body size, and their stupidity, made them inadaptable to their *milieu* that changed in a certain way, while physically weaker animals with better brains and more generalized skills survived.

It is to be noticed that the phylogenetic *evolution* of the brain happened according to the development of areas with less specialized functions called *association frontal areas.*

We consider, therefore, *regressive* the motorial *specialization* of the human being which is made in detriment to other essential capacities (specially during childhood and adolescence) and his excessive valuation through partial criteria based on activities where he is easily exceeded by animals.

One of the most impressive social phenomena of our critical epoch is the fact that the crowd confers more honours on famous athletes and other entertainers, than on the greatest benefactors of humanity. It is however stated that one is against class privileges.

Such notions lead us to easily conclude on the state of *evolution* of individuals and peoples also regarding the *physical education* they practise and advocate.

2 — The conscious *ends* of the individual activity present themselves at first directed to the outside: astronomy was developed before physiology; the improvement of machines occupies public attention more than the human improvement. To run in order to catch a ball or to compete with an adversary is already observed in certain animals and only the sufficiently *evolved* human being accomplishes it also to develop or preserve the functional aptitude of his cardio-pulmonar system.

Simultaneously with the juxtaposition, improvement and integration of organs and functions which we have talked of, one observes the development of sensibility, memory, imagination, ideation, reasoning, will, and *inborn reflexes, automatic movements,* the *conditioned reflexes, instinctive, emotional, expressive, imitative, ideo-motor* and *voluntary movements.*

The use of certain *movements* as *means of physical education* corresponds also to a certain degree of *evolution:* For instance, the exclusive recourse or nearly exclusive recourse to *instinctive* and *expressive* forms, after a certain age, does not mean *progress.*

X — We must stress that not everything is *movement,* especially in *physical education:* there is the *idea,* the *law,* the *principles,* the *ideal* and also (relative) *repose.*

Even under the physical point of view, we have the *fixation* of the fulcrum of the bony levers when it is a question of the use of force or the accuracy of a certain trajectory which is the reason why *bodily exercises* are composed of *positions* and *movements.*

The *principles* to which we referred are the «stand points» of human behaviour. Without them there is, therefore, no organized *physical education* (1); we also evaluate through them its *progress.*

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(1) *F. I. E. P. Bulletin*, N.° 4, 1964, p. 3.

N'oubliez pas, s'il vous plaît, de payer votre cotisation pour 1967, jusqu'au premier Mars.

XI — Psychological and moral *consciousness* is firstly the *syncretic one* (general and confused perception of phenomena) and then the *analytic* and *synthetic,* in accordance with the cerebral constitution and functioning. Its progress, in what concerns *physical education,* especially corresponds to the ability of being able to intentionally detach segmentary, so-called *analytic* movements from *global* primitive ones and afterwards combine them in more general and *synthetic* ones.

A better *form,* therefore *style,* is obtained in this manner.

At the beginning there is *shapelessness.* Order succeeds *disorder.*

To remain in *global* primitive movements that we distinguish from the *synthetic* ones is not to make *progress* either in the practical or the theoretical domain.

XII — The problem of *knowledge* in *physical education* which can only be improved combining the *analysis* with *synthesis, technique* with *art* and *science,* the roots of which sink in *empirism,* appears here (1).

The greatest *backwardness* is revealed in *primitive empirism* and in the *violent sportive fight.*

Besides, there is an effort of *scientific research* which expresses itself in parcial and scattered data that decomposes *knowledge* in innumerable fragments more or less useless if it lacks unity, co-ordination, perspective i. e. *synthesis* which reintegrates parts into a whole.

XIII — When hierarchally superior and later matured nervous functions which are more subjected to *outer* and *inner* «agressions», do not rule duly the inferior ones, some deviations of varied kind arise even the so-called *desintegration* of the personality. It happens with the predominance of *emotions* (specially passions) over *reason* and the *will,* the principal organic substructure of which is a very thin layer of gray substance which covers the human brain. This layer is certainly improved or is athrophied according to the *movements* over which it presides.

It is also natural that the basal *nerve centres* specially referred to *instincts* and *emotions* are likewise influenced by the functional excitations they principally receive. This circumstance deserves also deep thought in the present day historical moment and is in a narrow relationship with the theme which is occupying us.

In fact, the *pugnacious instinct* is one of the most powerful, it easily dominates the individual behaviour and also leads to *agression* and other sorts of violence. It does not makes sense to stimulate it *excessively* through systematic sportive competition which is often accompanied with riots and even bloody uproars which are symptoms of individual and social *backwardness.*

Inversely when it is a question of weakness or lesion in older organs and functions in the animal phylogeny, the whole of the individual life (and therefore of the social one) is diminished, disorganized or paralized through insufficiency of its biological foundations, that is to say, of essential impulses for its more complete psycho-motor, emotional, technical, artistic, intellectual and moral expression.

XIV — Let us now integrate the already pointed out classification of *movements* in another one.

The *spontaneous movements* assume, at a certain moment, a *pleasing* character and constitute *games* and *dances,* that, after being «free» and having their more or less conscious *aims* in themselves, contain elements of *work* with a certain conscious *finality* and are ruled by more or less strict norms according to precise objectives. These objectives predominate gradually in the normal human being without the activity necessarily ceasing to give *pleasure* which corresponds to a concept that also *evolves* according to individuals and social maturity and culture as happens to the *sentiment of beauty.*

(1) *F. I. E. P. Bulletin,* N.º 1, 1965, p. 75.

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Thus we have *games, dances, sports and gymnastics* as we have defined them in other works (1).

It is a question of *complementary* activities which are more or less pedagogically and technically *evolved*. The former, more primitive ones, are evidently more easily assimilated by the generality of individuals and peoples. Hence greater facilities to organize *games* and *dances* than other manifestations of culture in our domain.

XV — We should also refer to aspects of human *evolution* called *childhood, adolescence* and the *adult age,* words which are sometimes generalized from individuals to nations. These phases represent the progressive maturity of the human being, who, only in the latter one can be considered *formed* and *more responsible.*

Summing up, perhaps excessively, their principal sensory-psychic characteristics, we shall say that the first phase is essentially *sensorial,* the second one *emotional-instinctive* and the third more *rational.*

To each of these phases correspond certain differences in the form and intensity of bodily activities, in accordance with multiple individual differences of a biological, intellectual, social order and, likewise, forms of *apprenticeship* which *evolves* from learning by «trial-and-error» and conditioned reflexes to learning by imitation and reasoning which integrate the *former* (2).

XVI — *Learning* through «trial-and-error» is slow and seems to predominate in individuals and societies with less *cultural heredity* where one consequently ignores the results to which led past experiences and often causes the repetition of those that proved to be less efficient and even noxious, if not catastrophic. Thus the ignorance of what happened during the decadence of the classic Greek-Roman civilization, specially with sports, leads many contemporary individuals and peoples to repeat the same errors.

XVII — By the way of the classification where appears the phase of *childhood,* let us face now the *rural* individual and societies which present a very low level of *culture* and *civilization* (3).

Their activity is more or less limited to the necessities of feeding themselves (specially trough *hunting* and *fishing*), to breed and make war.

They *march* and *run* on the plains, they *scale* the mountains, *balance* themselves on the top of rocks and on trunks of trees, *crawl* and *climb* in the forest, *lift* and *carry, pull* and *push, throw* and *swim;* they make also *expressive gestures.* These are *movements* one can classify as (more) *natural* to the human species. They are *basic* ones because they have conditioned and continue to condition its *survival* and its *progress.*

They *play* during childhood, *dance* (warlike, erotic, mythic dances accompanied by strong, rhythmic and monotonous noises and sounds that lead them often to frenzy and unconsciousness) and *apply* their natural skill to outer utilitarian *aims* when adults.

What one can consider here more *primitive* is not very different from what one observes in certain individuals and peoples, who consider themselves *evolved.*

They have *technical* and *artistic* abilities and are essentially sensorial (visual, auditive, olfactive), emotional, instinctive and dreamers. They have a practical intelligence but they ignore *handwriting* and *science.*

Some races that live in favourable regions present excellent morphological bio-types which seem to show that the *evolution* of the human species takes place only under the psychic (psycho-motor), intellectual, moral and social aspects, thanks to *Education.*

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(1) *F. I. E. P. Bulletin,* N.os 3, 1960 and 4, 1964, p. 3. Etc.

(2) *Quelques aspects de l'apprentissage en éducation physique,* par A. Leal d'Oliveira, *Lisbonne,* 1953.

(3) *Lucien Lévy-Bruhl. Sa vie, son œuvre, avec un exposé de sa phylosophie,* par Jean Cazeneuve. *Paris,* 1963. Etc.

It is stated that the muscular bulk does not correspond to strength measured by a dynamometer, due to insufficient cerebral impulses (Féré). However, when they are transferred to civilized and cultured *environments*, one often notices their superiority in ancestral body activities, such as running and jumping, and greater muscular strength than people who let themselves become *athrophied* (1).

XVIII — As to the *absence of handwriting*, we observe that it is a question of graphic symbols of things, phenomena and ideas which are *indispensable to the preservation, development and transmission of all aspects of culture*. Its absence almost prevents *cultural heredity* that becomes limited to oral tradition and reduces *apprenticeship* to its more elementary forms, specially *imitation*.

It happens that so-called techniques of «*physical education*» (the only reason why we mention them) where *postures* and *movements* cannot have any written representation on account of their vague, entirely subjective character resulting from individual arbitrary creativeness with purely or above all artistic purposes, have been developed.

It is a «dancing gymnastics», accompanied by music which, together with the plastic beauty of the performers, superpose themselves on the contents of body *movements* which are the elements that interest us above all in *physical education*. They have often an inferior value as it happens to the texts of certain popular songs; their effects from the organic point of view are generally very limited.

There are however excellent achievements having also a functional value although lacking some basic activities.

When it is applied in schools, the absence of handwriting makes impossible the diffusion of programmes that are indispensable in all educational disciplines, being also a reason of its academic lack of prestige. It adapts itself however to popular Associations.

XIX — As we have said, the human being cannot be practically isolated from the physical and social *milieu* that moulds him and which he more or less knows how to modify to his and others' advantage.

Among the very different aspects of the *milieu* and considering that one of the principal ones, i.e. *climate*, is included in one of the themes of the *III Luso-Brazilian Congress of Physical Education*, we only refer to the *urban environment of some big cities*.

The *milieu* is the origin of exciting or depressive, healthy or unhealthy stimuli, the benefits or damages of which for individuals and peoples depend on their intensity, duration, variety and opportunity, and it is principally their persistency within its extreme endurable limits — for instance great heat or great cold — that is very harmful from various points of view.

XX — Although we recognise that large *cities* have been the greatest centres of *civilization* and *culture*, it is also in them where one is more withdrawn from favourable conditions for a *healthy life* under all points of view: pure air, sunlight, beautiful and varied landscapes and indispensable calm for *thought*.

In large *cities* one breathes an air polluted with dust and smoke, one is there continuously excited by strident noises, trepidations, glaring lights, intense traffic, journalistic sensationalism, films on violence and erotism. «Intellectualism», «mechanization», «sensualism», «sedentarism», to gain money and to amuse oneself as ideals of life, «athleticism» (the classical meaning), alcoolism, idolatry, the use of drugs and stimulants (doping etc.), misuse of remedies, excessive and irrational food, pornography, delinquency, the so-called degenerative illnesses, and the psychiatric ones, suicide, tumultuous politic agitation, etc., all this more in certain countries than in others, rule there (2). It is more a

(1) *The Research Quarterly (A. A. H. P. E. R.) — Washington*, Dec. 1965, p. 468.

(2) *F. I. E. P. Bulletin*, N.os 3-4, 1964, p. 3.

question of *degeneracy* than of *backwardness*.

Writers, poets, artists, philosophers, who are able to exert so much influence on peoples' *Education* are formed and work in this unhealthy atmosphere.

Although the plastic *arts*, etc., are likewise great victims of the divorce between human beings and nature, we shall limit ourselves to *certain philosophical* ideas.

The conception that makes of the human *existence* an absurd, incoherent, distressing thing, without purpose and ideal, where each person invents his own rules of behaviour and considers himself «free» although being *dominated* by his *senses, instincts* and *passions*, is now spreading in certain urban environments as a fire in a withered forest.

Now *Education* can only co-exist with an *optimistic philosophy*, that is the essential moving force of *progress* thanks to *hope* in a better future, also obtained thanks to one's own *effort*.

XXI — We should, therefore, try to rescue also the less *evolved rural people* from the degeneracy we have pointed out by developing their *Education* in accordance with their own abilities, traditions and local possibilities.

It would be a question, before anything else, of a *basic education: Moral and social education, alphabatisation, elementary techniques, educational games* from which real *sports* and *gymnastics* derive.

XXII — The Portuguese Province of *Angola* can profit of the more «natural» state of a part of its inhabitants and its immense regions where there are the most beautiful *landscapes* and the most varied *climates*, to continue a work of *progress* thanks to *Education* and a rational *urbanisation* which could avoid the already mentioned divorce between the human being and the *milieu*.

Brazil has already proved the great capacities of the *tropical man* to whom was shown the way to *progress* nearly five centuries ago.

I greet as President of the *F. I. E. P.*, the two great brother countries reunited in the *III Luso-Brazilian Congress of Physical Education*.

