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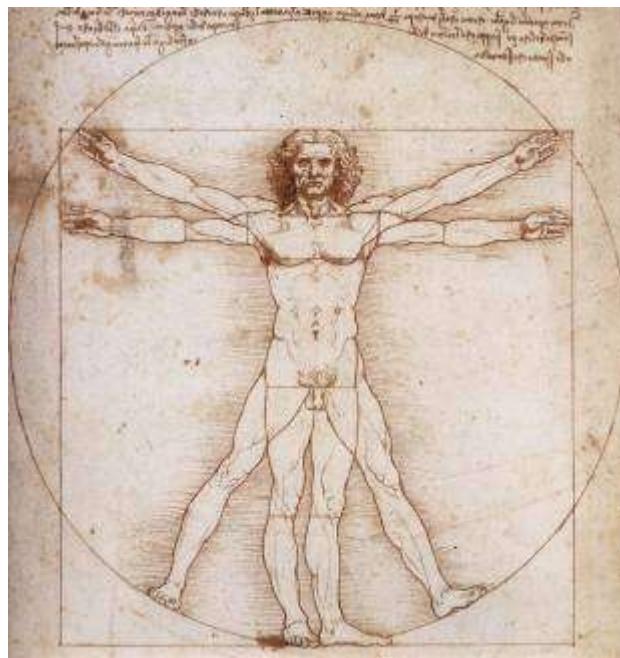


Movement... or... Moving mind?

MOTOR INTELLIGENCE

MOVEMENT, SPORT, BEHAVIOUR, SCHOLASTIC LEARNING, SOCIALIZATION

Prof. Pierluigi Aschieri



For a long time, human movement has been considered as an utilitarian activity, aimed at purposes of work and generating fatigue to varying extents, as a way of spending surplus energy in childhood and adolescence, or as satisfaction of the simple need for movement in free time. **This approach is limited and limiting because movement derives from the need of a species to interact with the environment to obtain food, to defend it and obtain shelter and protection.**

Motor schemes developed by the human species have always been interactive and aimed at the satisfaction of primary needs, i.e. survival.



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Human movement in its current form must therefore be considered as the result of an evolutionary process characterised by slow, gradual functional and structural adaptation, in order to optimise the systems and limbs and to aim at a more effective capacity of interaction with the environment.

From the physiological point of view, **movement is extraordinarily complex since it involves the human biological system as a whole, in its differentiated parts and the complexity of the functions**. Organizing the segments of the body in space and time according to a purpose, which is the visible part of the movement, is the result of executive function. They are characterised by complex neuro-cognitive activities, decision-making processes and equally complex implementing, biomechanical, bioenergetic and neuro-cognitive activities for checking and evaluation. From the birth of the individual onwards, functions and structures need movement to be integrated and developed. Hypokinesia in childhood limits, perhaps irreversibly this development and has a negative impact on the future of the individual, besides leading to overweight and obesity.

SPORT

Sport has been considered for a long time as a motor activity during the leisure time, something a little snobbish, and in any case reserved to those who have solved the problem of getting their daily meals. Practising sport was associated with non-productive effort. From another point of view, sport was seen as highlighting the bodily aspect and not the intellect and moral values, both being subordinate to the need to win medals.

Many decades later, we still see a cultural lag with regard to movement and sport.

In reality, **SPORT is a complex set of targeted motor activities, characterised by playfulness and competitiveness**, and is rooted in an original dimension, intersecting with other dimensions of human activity. Sport is synonymous with technique (i.e. identity) which manifests itself and takes form thanks to a motor language that communicates meaning.

In the sport dimension, the person/athlete explores all the possibilities of making original and creative movements, freed from utilitarian motor activity, challenging the laws of gravity and of space/time.



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LONGINES LONGINES

To this end, within planned, schedules process, constantly implemented and monitored, athletes undertake their system of motor loads modulated and distributed over time in order to produce functional adaptations on themselves and, within certain limits, structural adaptations according to the performance goals.

Every four years, and each time ever more captivating, the Olympic Games become the greatest event on the planet.

Why is this?

The Olympic Games are the context in which humanity checks and challenges its own limits every four years.

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In contemporary society, motor activities and sport, apart from the competitive aspect which have become heavily media-focused, have become:

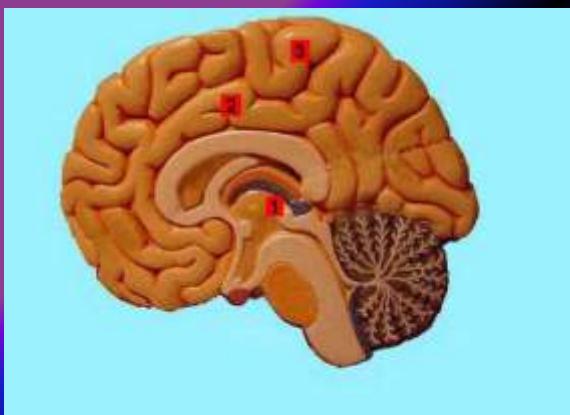
- In childhood, training, education, start-up of sports practice, socialisation etc.
- In youth, fitness, competitiveness etc.
- For adults, compensation of hypokinesia, prevention etc.
- For older people, prevention and/or treatment for metabolic and functional problems etc.

All these activities evidently involve a dimension that intersects with many others, including health, education, social policy, production, communication etc.

Sport produces spinoff in major areas such as training, media (general and specialised press, television channels), facility installation, specialised materials, clothing, various types of equipment etc.

INTELLIGENCE AND LEARNING

Historical and scientific evidence shows that the human species is endowed with an amazing capacity, unique on the planet. The intelligence is how to solve situations and/or problems, and an ability to create increasingly powerful means to extend and enhance its capacity to act. This is intelligence in the most pragmatic sense.



THE HUMAN BRAIN

- 1) The “first brain” (reptilian) consists of an encephalic stem acting on the basis of primary needs, i.e. survival (instinctive reactions)
- 2) The “second brain” (mammalian) consists of the palaeocortex and is related to socialisation, the family and the group.
- 3) The “third brain” (advanced) consists of the neocortex and is related to identity, experience, cultural imprinting and interpretation of reality through cognitive frames of reference, virtual constructions etc. and can produce abstract thinking, adhesion to...



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It is an evidence that the human species has developed **situational intelligence**, with the use of movement as the most effective means to solve situations and problems. This is closely connected with the availability of an intelligent, effective and efficient motor implementation capacity. We can hypothesise that sport may be an extraordinary laboratory for creativity and culture. On that basis, we can hypothesise that functions with widely varying complexity and quality are applicable as such to other areas of human activity, such as behaviour and scholastic learning, especially in childhood.

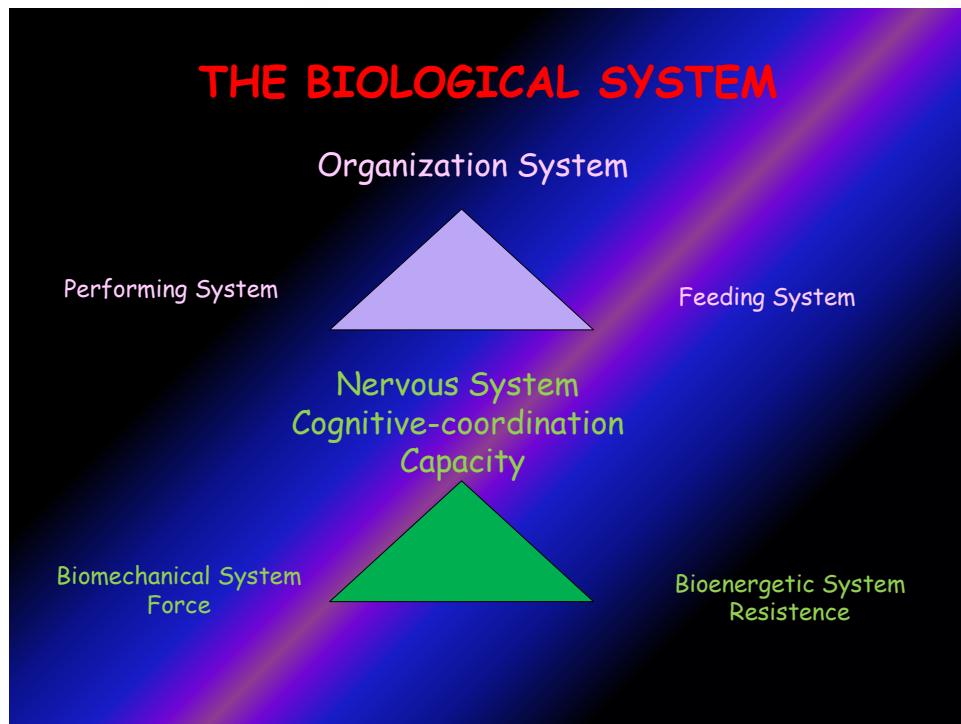
However, it should be recalled that movement promotes and consolidates the development of all biomechanical and bioenergetic functions, especially in childhood, and it is fundamental for their conservation if associated with a correct diet.

THE BIOLOGICAL SYSTEM

The human biological system is a complex functional entity consisting of a set of differentiated, integrated and interacting parts that contribute to a common goal. The system is open since it exchanges energy with the environment it interacts with. This whole is greater than the simple sum of its parts, and thus the characteristic of the complex entity is new or emerging, and on a higher level (L. Von Bertalanffy '68).



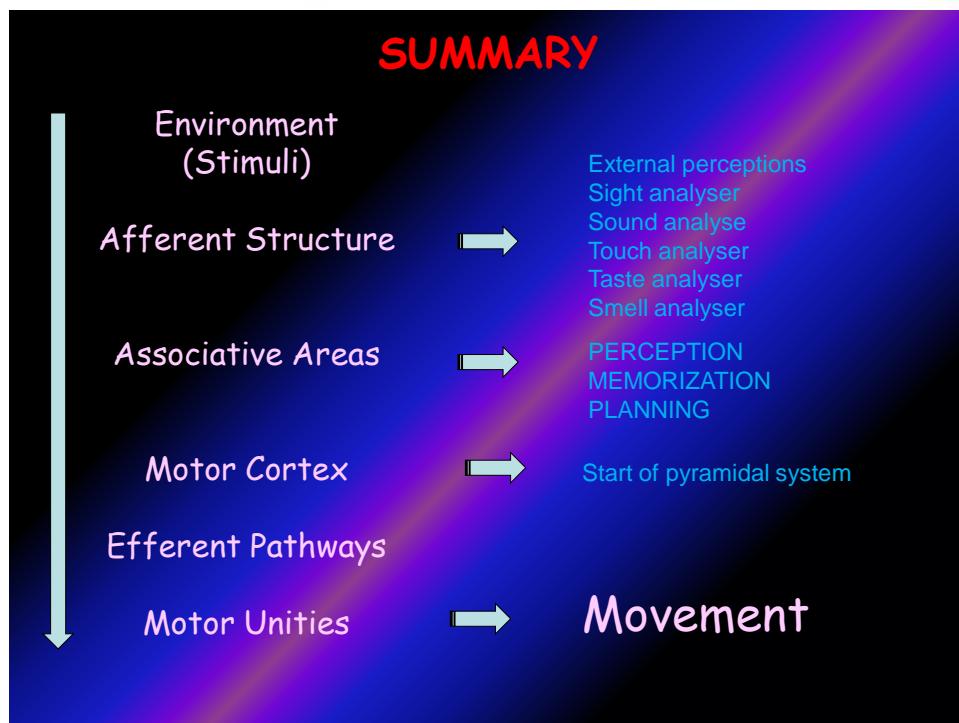
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HUMAN MOVEMENT



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The development of motor intelligence as an expression of executive functions expressed by movements and performed in situational contexts (space-time) can be easily integrated with other expressions of intelligence. They utilise other means produced by the diversification of the person's capacities (linguistic,-logical and mathematical, musical, social, environmental etc.).

This more general form of intelligence can be developed through a project framework taking into account from the start the absolute need to achieve this goal of complex skills.



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OBJECTIVES:

CAPACITY OF MOTOR INTERACTION WITH THE ENVIRONMENT

- Enhancing and stabilising attention processes;
- Developing the capacity of outer discrimination and self-perception;
- Situational structuring of the categories of space and time;
- Coordinating and modulating in every situation movements which are effective and efficient and, where necessary, qualitatively “excellent”;
- Performing motor sequences to sound tracks;
- Utilising the body as a mean of communication;
- Creatively solving problematic motor situations;
- Interacting with others in collaboration, (in opposition to games);

CAPACITY TO SOLVE SITUATIONS (SOCIAL INTERACTION AND INTEGRATION).

- Performing tasks, taking on responsibilities;
- Continuity and regularity in study;
- Reconciling study and continuity in sports motor activity;
- Maintaining a proper diet;
- Favouring aggregation and collaboration to reach goals;
- Fair Play;
- Respecting the environment, facilities and hygiene;
- ETCETERA

This is indissolubly linked to movement and, in contemporary society affected by hypokinesia, to sport experienced as a context that educates and stimulates creativity. If well structured, motor activity will rapidly develop the neuro-cognitive and motor functions in a very proficient manner, in a context characterised by playfulness and competitive interaction. We can add the close relationship between movement and diet to maintain the energy balance and prevent being overweight and obese.



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SCHOLASTIC BEHAVIOUR AND LEARNING

Between the ages of three and eleven, at school and in Clubs, children are in the developmental phase. It is therefore desirable to have collaboration between the organizations with differing and complementary functions, in order to work together for the educational project in the interest of children and their families.

The project alone is not enough, and professionalism is needed to implement it. The complexity of the problems involved cannot be considered as banal and reduced to movement, recreation, sport, sweat and medals.

Can the quality of the educational process determine the quality of social, scholastic and sports behaviour? Can have an impact on the quality and continuity of scholastic commitment and learning???

An experience extended for over a decade at the Eurocamp in Cesenatico has enabled us to monitor the development of the executive functions of a large number of individuals in childhood and to evaluate the phases with a longitudinal research:

- 1) Balance and cortex activity (Stabilometry).**
- 2) High resolution E.E.G. and cognitive tests.**
- 3) Motor tests.**

The experience has involved some comprehensive schools, and has shown that, once the neuro-cognitive and motor functions are developed, they can be successfully transferred and utilized in other contexts: study, family, peer group etc.



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The first functions developed through activities aimed at the development of M.I. are **the quality and stability of attention**, essential for any form of learning and closely connected with processes of outer and self-perception connected with movement. This provides children with immediate gratification and considerable motivation to explore themselves, the environment and enter into a ludic-motor relationship with the others. Based on this, a fundamental process starts up.

The first research conducted in Matera, in collaboration among schools, health sectors (Neuropsychiatry and Paediatrics) and the Federation, has resulted in an initial encouraging confirmation by the schools. This project responds to the expectations, works and its continuation is absolutely necessary.

This approach will undoubtedly create the basis for good quality, stable and lasting mental and physical health for the children of today and the adults of tomorrow.

We should add that it is impossible to teach complex skills (sports) to hypokinetic individuals obtaining good quality learning. Complex movements inserted in situations require the integration of complex functions and a trained performing body. These conditions must be present in order to successfully learn and involve time and energy within the reach of everyone. Learning and practice must take place in a gratifying manner.

The aim of the project is the development of these functions, after which the child can choose any sports speciality.



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MOTOR INTELLIGENCE???

In all the situations where the finalised motor action achieves the objective in a creative, effective and efficient manner, we can talk about motor intelligence.

KARATE... COMPLEX ABILITIES



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THE KIT

This is didactic material consisting of very light modular elements measuring m. 1x1 h. cm. 4, which are very easy to set up and take down, producing areas measuring m. 7x7 or m. 8x8 and other material used to set up an “enriched space”. The elements allow an extremely wide range of targeted exercises and motor actions, in conditions of absolute safety. **It should be stressed that it takes a total of 10 min. to set up and take down the layout.**

This solution enables us to provide didactic material suited to children, in premises or gyms not properly equipped for those who attend infant and primary school. Given this situation, Motor Education is hard to practice, both for safety and didactic reasons.

The possibility of creating paths with continuous variations of the structures, as well as providing for measurement of the times, allows for effective and periodical evaluations on the development of children's neuro-cognitive and motor skills. The protocol includes a destructured “Path” trial. Then there are skill tests, technical tests and situation games.

When needed, this layout can be used to develop some fundamental factors related to elementary skills testing included in the semi-structured “Play-Sport” and in the structured technical testing. In the comprehensive schools, the older age groups can also benefit from this kit.



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