

ORCHESTICS

A SYSTEM OF HUMAN MOVEMENTS¹

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«Less than one hundred years ago –wrote Joseph H. Mazo in his 'Prime Movers' in the late seventies– several people decided that they wanted to dance and realized that the kinds of theatrical dance being performed were academic, empty-headed or both». One of these people was Isadora Duncan who in 1900 came to Europe to revolutionize dancing. She had a brother, Raymond, who «organized» a colony in Paris and taught «Greek gymnastics», but none of them considered Greek art as some ethnic source: both tried to find the laws of free human movements hidden in, or rather revealed by, Greek sculpture and drawings as sources of natural dancing. They indeed turned out to be prime movers of modern dance, actually in Europe. (As a child I happened to be a member of that colony.)

In 1905 a Hungarian lady, by the name of Valéria Dienes –after graduating from the conservatory– obtained her Ph.D. in Philosophy, MA in Mathematics and aesthetics at the Budapest University (unheard of for a woman in those days) and later attended the philosophical courses of Henri Bergson at the College de France in Paris (between 1908 and 1912). It so happened that for recreation after theoretical studies she started attending the courses of Raymond and went to see Isadora three times in the Chatelet Theatre.

These impressions combined to a challenge for her scientifically trained mind and turned her interest towards the problems of analyzing human movements, of trying to find out and formulate the rules and laws governing them. Back in Budapest, in 1912 her acquaintances induced her to start a course. Her first study was published in 1915 in Hungarian and the first performance of her school of orchestics was a tremendous success in 1917 in the Budapest Urania Theatre with about one hundred pupils.

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This was the beginning of three decades of development (until 1944) during which Valéria Dienes evolved her ideas of the movement system called orchestics (from the Greek word *orcheomai*- «i dance»). «Everything that moves produces some change in space, in time and in force», she wrote and called these the physical criteria of movement (including the movements of lifeless matter). When performed by a conscious living being, the movements carry expression or meaning and this constitutes the psychological criterion of human movement. These four criteria represent the four main chapters of the system of orchestics, i.e. «plastics (or perhaps «kinetics»), rhythemics, dynamics and symbolics.

Kinetics (centered on the study of space) is founded chiefly on the interaction of the moving human body and its environment. Relative kinetics is the study of the body units (parts of the body) moving in relation to one another without any displacement of the entire body, i.e. the motosphere (consisting of movements «on the spot»). Absolute kinetics is the study of the body traveling in space, i.e. displacing itself (its motosphere) in relation to the environment.

Viewed from kinetics, space consists of two parts, the human body and the environment. These are connected by gravitation and by the recalcitrance of matter. The latter –consisting usually of the atmosphere– can be disregarded but the former binds us to the lithosphere (the solid state of matter) in a wide variety of ways. The environment may be stable environment and the pieces of matter detached from the main mass are parts of the mobile environment.

Two types of mobile environment can and should be distinguished: pieces of matter transmitting the body weight to the stable environment (shoes, vehicles etc.) and pieces of matter whose weight is transmitted by the body (a jacket, a ball, a cane, etc., confer the instrument dances). In the last analysis the mobile environment may either have a transmitting function or be in a transmitted state, - And both types can be studied at rest and in motion. The analysis should start by identifying the most natural relationship between the human body and the environment, in other words, to find the «contact points» between the two.

Humans became humans when they chose the two-prop contact instead of the four-prop support. The use of two legs for support is the most natural means of displacing the body in our current state of development. When two props undertook the struggle against gravitation, the other two became free to fill the space around the body with a large variety of movements. This space is called the motosphere which has an outer and an inner border. The outer limits constitute a spherical surface, the inner border consists of any objects within the sphere including the body itself, i.e. its anatomic constitution.

A human body can also transfer its motosphere from one place to another by different modes of displacement. Raymond realized that there were three fundamen-

tal elements of displacement by which the motosphere can travel: the step, the leap and the jump. These are defined as follows: the step is a change of props touching the floor (i.e. preserve their contact points) while the body weight is transferred. The leap is a change of props while both legs are in the air and the contact points alternate. The jump (or skip) is a change of contact points without changing the prop or props. These elements can be combined into two-element, three-element, etc. modes of displacement. These are the rudiments of locomotion, i.e. absolute kinetics.

For analyzing movements on the spot, the human body is represented by lines and swivel points, i.e. lines that are attached at one end or at both ends to another part of the body. They are referred to as body units. The main units are the three parts of the arms (upper, lower and hand), of the legs (thigh, lower leg and foot or sole), the two suspension lines (shoulder line and hip line) and the main line from the head through the neck, the trunk to the hip line. The limbs consist of primary, secondary and tertiary units which –when only one of them is moving– invariably describe spherical lines. For describing any other line at least two units have to be moved.

Duncan –laying stress on visuality– used the primary and secondary units of the arms in two relations: in straight line and at a right angle. In orchestics these came to be developed later into arm scales (parallel to the European major and minor scales in music), namely into the straight scale and the rectangular scale, then the obtuse-angle scale and the acute-angled one. These ideas have permitted to devise a wide variety of new forms and movements, not to speak of the asymmetrical combinations. This came to be called the chapter of relative kinetics.

Duncan's chief (and often only) concern was to keep the body in the profile plane (forward and backward) which he borrowed from the posture of Greek statues and which ensures equilibrium. This prompted Dienes to put the body into the center (origin) of a system of co-ordinates which led to the use of the frontal plane (in addition to the profile plane) and eventually to the trihedral (or three-dimensional) system of movements.

These are the fundamentals of kinetics, i.e. of space study which have proved to be a fertile ground for choreographers to invent new forms of movements.

Astorhythmics, the time study, of human movement, the Duncan-Dienes system relies on Greek prosody. This is not the cosmic notion of time but a subjective time, the time of the arts. Beside this there exists objective time which can be measured and can be compared with its own parts. This is dictated by objectivities, like the revolution of the Earth around the Sun, producing the seasons, or the rotation of the Earth around its own axis, producing days and nights. This is the time objectively dictated by the cosmos. Replying to these dictates is my own subjective and very personal time. My body dictates and psychological time, like the beating of my heart or my breathing, or any symptom of metabolism etc. Neither the objective time nor the subjective time

can be measured by integers (whole numbers). We are aware of the problem of leap years and know that a day and a night are not of equal duration on all latitudes.

Greek culture had evolved a time division or time segmenting called prosody, deriving from one of the most natural expressions, i.e. human speech. We have received this ready-made from antiquity. The division of time into units and the stress laid on any segment constitute the time study, i.e. rhythmic. Without units and some mode of grouping them, no patterns can be constructed.

As the unit of time division we accept the mora, i.e. the unit of metrical time, which will impress patterns on the duration felt to be a sequence of identical units. The metrical feet, which are called here time feet, can be used for designing patterns into space by combining the corresponding rhythms in movement. The time feet can be designed into space by using combinations of the three basic elements of displacement; step, leap and jump. For instance the four-mora dactyl (long, short, short, i.e. taH-ti-ti) can be performed by a leap or a jump plus two steps, or the ionic a minore by two steps and two leaps (ti-ti-taH-taH).

It is interesting to note that the three-mora, the four-mora and the six-mora combinations come more naturally to the human body than, for instance, the five- or seven-mora patterns. The paions (for instance taH-ti-ti-ti) or epitrites (like taH-taH-taH-ti) may give the impression as if something were missing. In fact what seems to be missing are, of course, only the sixth mora and the eighth mora which would make them into ionics or dochmioses. For the unusual character of the odd-mora time feet we may recall the difficulties Nijinsky had when teaching Stravinsky's «*Le Sacre du printemps*» which has beats of five-four time, 11-four time, 7-four time, extremely difficult for European ears which are used to treble and quadruple rhythms, i.e. «common time».

Dynamics –the study of effort– deals with the physical causes of all movements. Here again we distinguish relative and absolute dynamics, responsible for the energy fed into the body to start a movement which is to spend it. Accordingly, each movement has an ascending and a descending line of what is called an energy wave. Dynamics may be referred to as the input- output theory of orchestics. The motion of lifeless matter obtains its input from the outside, from another piece of matter, but human movements obtain their input from inside, i.e. from the body itself, or rather from the spiritual or at least physiological part of man as a psychosomatic being. The motion of lifeless matter is unintended, i.e. has no purpose while the movement of a living being is governed by some purpose, by intention.

This has brought us to the fourth criterion of human movements, namely their meaning, their content. Symbolics is the realm of expression, of communication. When thoughts and emotions are brought to the periphery of the body, the movements fulfill their social function, carrying some message from one mind to another. The study of

movements as message carriers has led Valéria Dienes (relying on a Bedrgsonian background of semantics) to develop her theory of evologic, i.e. the logic of evolution based on four fundamental laws: -time synthesis (the fusion of past and future in the present), emergence (cf. creativity), absence of identity (cf. diversity) and irreversibility (forward direction).

We have not yet spoken of the theatrical productions that were born out of these considerations and of their realization, like the historical dance dramas (e.g. «Mystery of Saint Emeric» in 1939), of the biblical plays (e.g. «The Eight Beatitudes» in 1926 or the «Ten Virgins» in 1934) and the children's plays and many other dance compositions for the stage.

In a short lecture as this, it is evidently impossible to give a comprehensive survey of a system of human movements, so we have given some basic snapshots conveying a general idea of this Duncan-inspired line of Hungarian dance culture which lived for thirty odd years and then –after half a century of «compulsory» slumbering– is being resuscitated by the aged who remember and is practiced by the young who are ready to assimilate and further develop it under the aegis of the new Society for Movements Culture organizing post-graduate courses at the Hajnal Imre University for Health Sciences.

Dr. Valéria Dienes's book on orchestics- *Orkesztika –mozdulatrendszer–* was published in Hungarian in Budapest in 1996 (163 pages with 93 illustrations). Edited and introduced by Dr. G.P. Dienes. The book is accessible in the Dance Collection of the New York Public Library.

Abstract

En 1915 Valeria Dienes publicó su primer estudio en el que ofrecía una primera visión sobre el análisis del movimiento del cuerpo humano a través de la indagación en las leyes y reglas que lo gobiernan. A lo largo de las tres décadas siguientes (hasta 1944) desarrollaría el sistema de movimiento humano que denominaría *Orchestics*. En este artículo el hijo de la investigadora y coreógrafa húngara hace una breve revisión de los principales aspectos que conforman este sistema poniendo de relieve un fenómeno digno de ser tenido en cuenta a la hora de considerar el nacimiento y primer desarrollo de la danza moderna en Europa.