REPORT ON THE FIRST INTERNATIONAL
CONGRESS ON MOVEMENT NOTATION:
TEL-AVIV UNIVERSITY, AUGUST 12 - 22, 1984

The Eastern Mediterranean area, heart of Judeo-Christian, Graeco-Roman and Moslem traditions, and a fertile area during the development of scripts for spoken languages, seems in retrospect to have been an appropriate venue this summer for an occasion of historical importance for the development of scripts for human body languages.

The first International Congress on Movement Notation represented the first public occasion at which inventors, developers and professional practitioners of the three major movement writing systems came together with other interested professionals, to discuss and share developments and to report upon current applications of their systems.

The three systems referred to are, in chronological order of their development, (i) Labanotation, invented by Rudolph Laban circa 1928 in Germany (and subsequently developed primarily by Hutchinson-Guest in England and Knust in Eastern Europe), (ii) Benesh Notation, developed by Rudolph and Joan Benesh in England in the early 1950's, and (iii) Eshkol-Wachman notation created at Tel-Aviv University by Noa Eshkol and Abraham Wachman also during the 1950's. Interesting historical questions come to mind as to why, almost three thousand years later than the development of the first alphabetic scripts for spoken languages, three systems for the writing of human movement should emerge almost simultaneously in the first half of the twentieth century?[1] Unfortunately such intrigue cannot detain us here. It is the case however that only 30-60 years after their creation, these systems are currently being applied to such diverse spheres of interest as physical therapy, kinesiological analysis, the anthropology of human movement, choreographic invention, the historical preservation and reconstruction of both traditional dance forms and contemporary works, dance education and the computerized simulation of the human body, as well as in the non-human but nevertheless 'moving' realms of computer graphics and animal behaviour studies.[2]

Whilst there are many aspects of the Congress (and of the visit to Israel itself) which would provide interesting anthropological discussion, I propose to focus in this brief report upon two topics deemed to be of more interest to JASHM readership.

First, it became increasingly clear after receiving instruction in the less familiar systems of Benesh and Eshkol-Wachman that a necessary pre-requisite to a clear understanding and fruitful comparison of the systems is the placing of each creator in his or her historical and cultural context(s). Not unexpectedly, diversity of purpose, and the different body language contexts out of which the three systems emerged, have in turn led to very different analyses of the body itself, of space and of time.

Second, it is possible to view much of the excitement and many of the problems and fears which were expressed both formally and informally at the Congress as representing a period of transition from 'oral' to literate culture in relation to human movement. As such, statements made by Plato in relation to the emergence of spoken language literacy in Greek culture circa 400 B.C. are relevant, calling to mind the fears that were expressed regarding the dangers of writing spoken languages.

Creators in Context

The inventors of each of the three notation systems mentioned above had different aims when creating their systems. They were of different cultural backgrounds, and familiar with different body languages, all idioms of dance in these cases. It is therefore to be expected that the basic premises and assumptions upon which the analyses of movement were based should differ in each case. All these factors become apparent as one begins to compare the systems.[3]

Noa Eshkol, for example, is an Israeli dance choreographer, and the daughter of a government premier, whose prime interests lie in the subtle and complex articulation of the body in space. She wanted to experiment and choreograph without a priori connotations attached to the movement content she chose. Working with architect Abraham Wachman, she developed a system bearing both their names that is capable of recording any form of bodily movement (as well as the movement of any kind of 'body' or object in space). For Eshkol this was initially and primarily a cognitive technique for her own compositions and teaching. Wachman expanded these creative purposes by utilising the spatial analysis in architecture and computer graphics. Both appear to have a wider vision regarding the potential of such technology to change the way movement is customarily thought about and analysed, in addition to recognising the advantages of a script for recording dance traditions. It is important to realise that they were aware of and informed by Laban's system and did not create their system as if by spontaneous combustion in a vacuum. They chose to depart from Laban's analysis by creating a significantly different basis for the division of space and for the movement of limbs. They also chose to use numbers instead of spatial symbols which lengthened in time, and to write from left to right in horizontal columns divided into squares, rather than to write vertically.

In contrast, Laban was born of an earlier period (b. 1879, Bratislava, Austria-Hungary, now in Czechoslovakia - d. 1958, Weybridge, Surrey) and travelled widely in Eastern Europe, where he observed much of the rich folk dance tradition.

Intellectually he was intrigued both by Greek concerns with mathematics, the movement of planetary spheres and crystal forms, and the Bauhaus movement in visual art and architecture in Germany. He was both choreographer and dancer, with a wide interest in human movement in diverse situations, from the physical working environment to mime. His intention from the outset was to create a system which would be

capable of writing <u>any</u> human movement. His later work in England focused
particularly upon the analysis of dynamic components in working environ-
ments such as factories. Interestingly, it seems as if a later separation
of aspects of his work occurred: the creative and compositional
potential of his spatial and dynamic analysis became known as 'Choreutics'
and/or 'Movement Study', whilst the writing system became known as
'Labanotation' and/or 'Kinetography Laban'. The writing system came to
be used primarily for the recording and preservation of professional
theatre dance works (by Hutchinson in America and those trained at
the Dance Notation Bureau in New York) and traditional dances of
Eastern Europe (by Knust and others in Yugoslavia, Poland and Hungary).
Laban's English disciples[4] concentrated upon dispersing Laban's movement
education principles in the non-professional realm, embracing a
'movement for all' philosophy. It is of interest to note that this
philosophy <u>excluded</u> the notation system!

A fascinating discovery made during a conversation with Ann
Hutchinson-Guest revealed that Laban himself was <u>not</u> in favour of
introducing children to the notation system. When Hutchinson-Guest started to
introduce the symbols of the system as part of her movement education
with young children, this was greatly frowned upon, because it was
thought that the children's natural expression and creativity would
be spoiled by confining them to written symbols. Evidently, Laban
leaned towards Rousseau's model of education, encompassing what we now
know to be rather misguided principles regarding 'natural expression',
a point to which we will return in relation to movement literacy.
Perhaps this concentration of effort into the non-professional sphere
by Laban and his followers left precisely the kind of gap in the
professional dance arena in England which came to be filled by Rudolph
and Joan Benesh. Both were involved in professional ballet in England,
and they developed their system of notation to record and preserve
ballet choreography. In contrast to the other systems, Benesh Notation
was designed specifically at its outset to record <u>one</u> body language
and its 'dialects', the Ballet. Not unexpectedly the writing system
itself underlines many of the principles of ballet, such as a concern
with line, and the visual <u>results</u> of movement.

Problems have arisen as the Benesh system has expanded to deal
with other applications. In this graphic system there is no finite
spatial set of symbols applicable to all movements of all parts of the
body. In order to deal with movement of the head and hands, for
example, numbers are used above the five-line staff, a radical departure
from the rest of the system.

The Eshkol-Wachman system operates upon the notion of the limbs
of the body as rods which act as axes, capable of rotary, planal and
conical pathways in space.[5] The analysis of space is comprehensive in
the sense that the total space around the body and all body parts are
included in a finite set of numbers and symbols which are used to apply
to all situations. Like the Labanotation system the space is conceived
of as a sphere, with smaller spheres located at each of the joints of
the body. The sphere is divided into two planes -- horizontal and
vertical. These in turn are segmented into sections and points upon
the planes are assigned numbers. For those familiar with the Labanotation

system it can be seen that the Eshkol-Wachman system differs here. In Labanotation, the sphere is divided by three planes at right angles to each other, producing a construct known as the 'cross of axes'. In both the Eshkol-Wachman and Labanotation systems, a finite number of spatial directions are obtained which can apply to the movement of the whole body or to all body parts. In Labanotation, spatial symbols specific to the system are written, whereas in Eshkol-Wachman arabic numerals are utilised. In the Eshkol-Wachman system movement is described according to various spatial frames of reference. In Labanotation, added flexibility of description is achieved with bodily based concepts such as the 'contraction', 'folding', and 'extension' of limbs. Various ways of describing relationships (between body parts, persons, or persons and objects) are also possible. The Eshkol-Wachman system has been successfully utilised by animal behaviourists who wish to analyse film loops for regularity of behaviour patterns. One hopes that by this means, animal behaviourists and ethologists will free themselves from the use of verbal descriptions and we shall no longer hear of the 'dances' of apes, or the 'ritual' behaviour of badgers. I am still of the opinion that Labanotation is of greatest value in an anthropology of human movement where description according to the concepts and descriptions of the agent, as opposed to behavioural descriptions, is a major concern.

Wachman supplied some interesting anthropological data when at one point during the conference, confusions arose because discussants were using the words 'front' and 'forward' without qualification. The assumption was that surely these words must mean the same thing across systems? Not so. Wachman pointed out that the root of the Hebrew word which translates into English as 'forward', also means 'East', the direction of the sunrise, a cardinal direction. This may account in part for one of the basic principles of the Eshkol-Wachman system, the notion of 'absolute zero', a concept relating to a point of departure for the measurement of other spatial directions. Absolute zero does not correspond to the Labanotation concept of a 'constant cross of axes'[6] according to which 'front' is fixed in the space, but it is a point external to the body. It is arrived at when limbs, torso and observer share a common definition of 'front'; a subtle and complex difference.

From Oral to Literate Culture

Why do choreographers, dancers, and anthropologists alike resist the idea of notation? Can and should choreographers compose without the physical presence of the dancers? Will the notation system itself limit the choreographer? These were the kinds of questions articulated by many dancer/notator participants of the Congress, and they serve to indicate the types of problems involved in a transition towards literacy for (largely) Western dance and movement studies.

An interesting correlation can be made between the attitudes and fears of many western dancers and choreographers towards the technology of a movement writing script and Plato's criticisms and fears about the assumed dangers of written spoken languages. Plato expressed great reservations about writing, seeing it as a mechanical, inhuman way of processing knowledge, unresponsive to questions and living dialogue and destructive of memory (Phaedrus and Seventh Letter).[7] In like manner, there is often a resistance to the idea of movement texts on the grounds that it may somehow 'change' the dance, or any system of structured human actions, making it more mechanical and less human and making it seem dated after a period of time rather than capturing a 'living spirit'. We are told that this is the attitude for example of Martha Graham.[8] At the Congress, Wachman accurately suggested that the resistance to having works notated reflects an over-riding concern amongst Western choreographers with a 'living present'. Richard Alston, resident choreographer with Britain's Ballet Rambert, expressed regret at this reluctance; his company employs a resident Benesh notator whom he finds invaluable. Alston suggested the existence of a fear of notation that is a mental habit, a block which he would like to see disappear, although he was not planning to learn a notation system himself.

In an oral culture, knowledge once acquired has to be constantly repeated or it would be lost, hence the existence of repetitive forms and other conventions in epic poems and narratives. Relatively fixed formulaic thought patterns appear to be essential for wisdom to be passed on and for effective administration in oral cultures. Storing knowledge in the written text rather than in mnemonic formulas however frees the mind for more original and abstract thought. Far from being restrictive, it seems to have been the case that literacy, once deeply interiorised, released Greek culture from the very kinds of clichés and formulaic constructions which Plato found outmoded and counter-productive to rational thought. Despite his prior objections, the kind of thinking Plato advocated was a product of literacy.

In relation to human movement studies and the dance, it would seem that a similar situation exists. This is not to say that literacy in movement does not alter one's perception of movement. I have argued elsewhere that a notation system becomes a classification system, a 'mode of registration' in its own right.[10] But such technology, far from being restrictive, can, as in the case of spoken language literacy, widen the expressive possibility. After all one is in a sense free to invent the impossible as well as the possible.

It would appear that human intelligence is relentlessly reflexive, in which case we may well ask, what are the 'external' devices initially used to implant thought processes that rapidly become internalised and part of the reflexive process? Noa Eshkol illustrated the point on one occasion: in answer to a question about whether she composed first and then wrote the movement down, or vice versa, Eshkol emphatically rejected the separation implied by the question and replied, "Notation for me is a means of thinking, it is the movement". In other words, the numbers and other symbols represent the movement itself; they are not just a 'means to record'. Nor are they something external to the

thinking process. In spoken language terms such a question would be analogous to asking whether in writing this article, I am composing first and then writing down, or <u>vice versa</u>? For the literate person it becomes a non-question.

Analogies can be made with western musical traditions also. The western music scale has served composers for several hundreds of years and although modern composers may feel the need to extend its limits, one can hardly view the compositions of Bach, Mozart, or Beethoven with regret because they were limited by their notation systems! Underlying the naiveté of the question 'would choreographers be limited by a notation system' is Rousseau's view, which works upon the premise that 'natural' man is spoiled by the imposition of formal training. Laban himself held such a view, but this has shown itself to be false, as those of us left to deal with the vagueness and ambiguities of commands to improvise are only too aware. Such notions of a creative freedom which is unaccompanied by any knowledge or skills to create with are misguided and such freedom can in fact paralyse potential creativity. It is necessary for there to be some basic training in the requisite skills in order to create, whether one is concerned with a knowledge of spoken language, of a movement vocabulary, or of painting techniques. Without new knowledges to create with, one is condemned to repetition; to the re-organisation of old habit patterns. It seems to be the case that innovation occurs, not out of ignorance of prior knowledges, but when old boundaries are broken. Picasso, for example, did not produce abstract work because he could not draw representationally; he chose to break the old rules. History shows that Massine turned to Stepanov's notation system because he felt the balletic 'vocabulary' of his time was limiting. It is quite reasonable to suppose that, rather than limiting a choreographer, literacy in movement would provide new bases for breaking established rules of human movement exploration, as Noa Eshkol has discovered.

A further point of historical interest provided by Hutchinson-Guest was that the Feuillet system of notation developed during the 17th century was fairly widely known and read by the upper classes in France for whom dancing was an extremely important social art. As the role of the professional dancer emerged (and consequently classical ballet), less educated and non-literate persons from the lower classes began to fill this role and the use of Feuillet's notation declined. Prior to this, however, there seems to have been an emergence of movement literacy in the courts of Europe.

With reference to the current development of movement literacy, it seems necessary to emphasize that the present situation will not change until notation systems are taught alongside practical dance and movement activities. The usual emphasis upon training notators as 'scribes' to choreographers has served to supply a body of notated works, true, but unless this is supplemented by programmes to introduce movement literacy to children at the same ages at which they learn to be literate in relation to spoken languages, mathematical ideas, and music, literate dancers and choreographers will remain an extremely small minority within a non-literate majority, as were Medieval scribes, most of whom were monks.

Conclusion

Israel was an appropriate venue for the Congress for further reasons. Israel is a newly formed nation with complex internal problems, developing as it is along Western democratic lines and housing an international Jewish immigrant population. The country is also extremely conscious of its tenuous international position regarding the right to exist as a nation.

In a similar manner, those concerned with the development of each of the three extant movement writing systems have their own problems as wider and more and more uncontrolled applications of their systems are made. Despite these internal differences, at the Congress it was deemed appropriate by each group to present a united front to the 'outside world' of other notation systems, and a certain degree of patriotism was often in evidence. Whether this is advantageous to scholarly debate and critical discussion is doubtful. Unlike the nation of Israel, however, movement notators on the whole seem unaware of the tenuous position they hold academically and in relation to the dance world they purport to serve. The focus of the Congress was largely upon practical problems and diversity of applications rather than upon the many theoretical issues which cry out for attention. Whilst on the whole this was intellectually disappointing, it does perhaps explain certain problems relating to wider academic recognition of movement notation systems.

An overriding concern with pragmatics will not engage the better minds in philosophy, mathematics, sociology, anthropology or psychology to consider the enormous potential that such technology offers us in terms of the way we conceive of, think with, and utilise human movement. Neither will educationists or artists adopt such a technology unless the creative and intellectual potential of movement notation is presented along with historical and preservationist aspects.

The Congress was nevertheless an important 'first', and organisers and participants alike were delighted to find that over two hundred representatives from more than twenty nations were able to attend. A second conference is anticipated for 1987.

Brenda Farnell

NOTES

1. There have been prior attempts to create systems for writing down dances; the earliest known European system dates back to 15th century Spain. Others have appeared periodically, some based upon stick figure representations of the body, others upon musical notations. They include: Arbeau in 1588, Feuillet in 1701, Stepanov in 1892, Saint-Leon in 1852, and Zorn in 1887. A current

system also based upon stick figure representation is Sutton
Movement writing, circa 1970. All these systems are discussed
in Hutchinson, 1984.

2. A selection of titles of papers presented at the Congress are
    listed here to illustrate the variety of applications. They are
    annotated with my own commentaries.

Physical Therapy

'The use of Benesh Notation in Clinical Work with Handicapped
Children', V. Ashford (Gt. Britain). The use of a notation system
represents an important advance in the documentation of restricted
physical abilities and debilitating habit patterns. This paper
shows it to be an invaluable means to devise treatment programmes
and handling procedures, and for recording changes and progress
made by the children over extended periods of time.

Kinesiological Analysis

'The Labanotation of Human Gait: of the Kinematics of Human Gait',
R.S. Ryman, A.C. Patla, and T.W. Calvert (Canada). This paper
gave the results of careful research which demonstrates the ad-
vantages of Labanotation over current quantitative methods of
analysis in this field (such as myoelectric signals from the leg
muscles, or the measurement of angular displacement of parts of
the leg). This computerised system records individual gait
variations and kinematic abnormalities from a pre-established
norm.

Anthropology of Human Movement

'Anthropology and Notation: Some Theoretical Considerations',
B. Farnell and D. Durr (Gt. Britain and USA respectively). The
strength of the Labanotation system for anthropology lies in its
ability to record human actions according to the concepts of the
movers. Examples of vastly different conceptions of space and
time in dance and non-dance contexts were used to illustrate
important points regarding the necessity for anthropological
training and knowledge of the spoken language for anyone
contemplating the use of notation in a cultural setting other than
his own.

Preservation and Reconstruction

'L'Apres Midi D'un Faune - A Revival', A. Whitley (Gt. Britain.
A sensitive, historically aware discussion of the problems and
ambiguities surrounding such an enterprise, even if an old film,
prior performers, and a partial score are all available.

'The Gavotte: Four Notation Scores from Four Centuries', C. Teton
(USA). A Lecture demonstration and published booklet.

Computer Simulation

'Eshkol-Wachman Notation and Kinetic Art', J. Harries (Israel).
'Simultaneous Movement-Phenomenon and Representation', A. Wachman
(Israel). Using computers and programmes based upon Eshkol-Wachman
notation, these papers explore the portrayal of three dimensional
movement on a two-dimensional screen.

Animal Behaviour Studies

'Honey Badger Interactions described in Eshkol-Wachman Notation', Y. Yaviv (Israel). Analysis of 100 frames per second film (using computers) in the minute observation of animal behaviour patterns.

Dance and Religion

'The Liturgy - A Sacred Choreography', M. Du Bois (Israel). A delightful and perceptive paper illustrating the importance of human movement in many aspects of monastic life from this French philosopher and historian of Greek philosophy who is also a Dominican monk. (The paper is a marvelous complementary document to Williams's 'Sacred Spaces' (1978). The editors hope to be able to publish it in a future issue of JASHM.)

3. Whilst recognising the need for detailed comparative work, this paper in no way attempts to do this. See Eshkol et al, 1979, for a comparison of Labanotation and Eshkol-Wachman.

4. See Redfern, 1973, for a critique of Laban's followers in adhering too closely to a 'doctrine'.

5. See Eshkol and Wachman, 1958, for further clarification of these principles, and Williams and Durr (forthcoming publication) for clarification of Labanotation principles in non-dancer's terms.

6. The constant cross of axes is a spatial frame of reference whereby 'front' and 'back' directions remain constant in the space regardless of the way a person in the space may be facing. For example, one can talk of the front of the classroom or the stage front. Coming 'forward' using such a frame of reference would mean approaching that particular area or edge and has nothing to do with the front of the individual mover's body. An individual could choose to walk sideways or backwards in relation to his or her own body in order to achieve such a destination. See Hutchinson, 1970, and Durr and Farnell, 1981, for further clarification and examples.

7. See Ong, 1982:79. He discusses Plato's attitudes towards literacy in relation to present day fears regarding computer technology and the use of calculators.

8. Statement made at a SASHM seminar, New York University, spring semester, during which Diana Grey, now head of the Graham school in New York, was interviewed by Diana Hart-Johnson (M.A. Anthropology of Human Movement).

9. Statement made during panel discussion at the Congress by Hutchinson-Guest.

10. See Ardener, 1973, for original discussion of 'modes of registration' and Farnell, 1984:210, for an application of the idea to Labanotation and to the apperception of movement.

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