

# The Perception of the Fleeting Moment in Dance

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## ABSTRACT

The perception of the fleeting moment of dance may be considered from the viewpoint of each of the other arts: the visual arts, music and literature. The fleeting moments are classified into 4 categories according to the first and second derivatives of the movement: into posing, suspended, gliding and transitional moments. The various elements of visual design, their qualities, and organisation into structures are discussed. It is shown how these can be applied to the first three of the various categories of fleeting moments in dance. The roles of repetition as used in music, and meaning as used in literature are also discussed, as they assist a viewer to remember a fleeting moment in dance.

## INTRODUCTION

The quality and nature of the "fleeting moment" has been sought by artists and others from time immemorial. The ancient Greek philosopher, Zeno of Elea, in the 5th century B.C. is popularly associated with this problem, through his four paradoxes (Gwinn, 1985:136): Achilles and the Tortoise, The Dichotomy, The Arrow, and The Stadium. These are all concerned with the apparent impossibility of a moving object traversing an infinite number of positions in a finite time. Zeno's solution was to deduce that motion was impossible!

The paradoxes were resolved in the 17th century by Newton and Leibnitz with the realisation that the sum of an infinite number of infinitesimals may be finite. This led to the invention of differential calculus (Compton, 1963:22) which allows the classification of "fleeting moments" into categories. We may characterise each moment by the first and second derivatives of the movement at that moment: i.e., the velocity and the acceleration. This gives us four categories for consideration (see Table 1). Each has a different feeling or appearance associated with it. These are discussed later.

| Category | Velocity | Acceleration | Appearance |
|----------|----------|--------------|------------|
| 1        | Zero     | Zero         | Posing     |
| 2        | Zero     | Non-zero     | Suspended  |
| 3        | Non-zero | Zero         | Flowing    |
| 4        | Non-zero | Non-zero     | Transition |

Table 1  
Categories of the "fleeting moment"

The interpretation of a dance requires two actions on the part of the percipient (Adshead, 1988:81):

- Discerning and understanding the features of the dance as they are perceived (literally and imaginatively) through appropriate concepts of the relevant conventions and traditions.
- Recognizing the appearances, effects, moods or atmospheres and impressions created by the perceptions.

We can apply both of these actions to the "fleeting moments" of dance in each of the four categories suggested by differential calculus. This allows the application of the common forms of analysis from the Visual Arts in a coherent way to dance. The forms of analysis used in Music are also applied using the idea of repetition. The forms of analysis used in Literature are considered using the ascription of meaning.

## CATEGORY-1

Still moments in a dance are the most closely related to the arts of drawing, painting, photography and sculpture, in which stationary works are normally produced. In Category-1 moments, the figure is still, and can be aesthetically analysed directly in the terms used for the aesthetic appreciation of painting and sculpture.

The most celebrated dance falling entirely within Category-1 was perhaps "Duet" (1957) by Paul Taylor, in which he stood, and Toby Glanternick sat, still, from the opening to the closing of the curtain. It was greeted with a totally blank review in the *Dance Observer* (Mazo, 1977:261).

Stationary poses are used in many dances, such as the "Lunge Line" (Allen, 1984:62), the "Eros Line" (Allen, 1984:105), and the "Throwaway Oversway" used in ballroom dancing. Movement sequences incorporating such poses are frequently called "picture steps".



Anna Piper and the author  
dancing a Throwaway Oversway

To analyse such poses, the two dimensional methods of analysing drawing and painting can be used, because the percipient actually senses only two dimensional images in the retina of the eye. Also, dance performances on a proscenium stage are visually framed in the same way that conventional drawings and paintings are framed.

The basic elements of a visual design have been listed as: point, line, plane, volume, size shape, number, density, interval and position (Garrett, 1967:134). These can have a number of basic qualities listed as: light, colour, space, mass, movement and time (Garrett, 1967:9) These are manipulated by the artist to create organisation and structure involving proximity, continuity, closure, rhythm, tension, balance and proportion (Garrett, 1967:113).

Some of these seem rather muddled. The basic element of "area" appears to be missing (although "plane" may be Garrett's inexact term for it). The elements "plane" and "volume" are three dimensional, and so can only be inferred from a two dimensional representation. They are clearly not as basic as the others. The structures "proximity" and "interval" appear to overlap in concept, and to be constituents of "rhythm", "balance" and "tension", so that again, some structures are more basic than others. A hierarchical classification would perhaps be more appropriate.

A quality like "direction" or "orientation" appears to be missing from the list.

The qualities "colour" and "light" appear to inexact references to two of the three variable required to specify a retinal sensation. The scientific terms for these are "brightness", "hue" and "saturation". The term "light" appears to refer to "brightness", and "colour" to both "hue" and "saturation" (Rainwater, 1971:100).

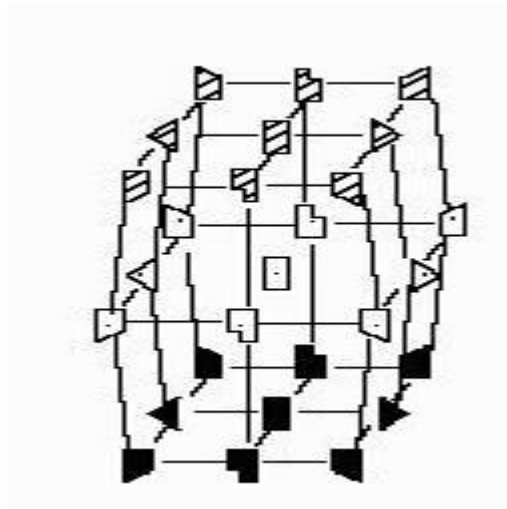
The qualities "movement" and "time" applied to a painting appear to be inferred, and to be less basic than the others. They also appear to be somewhat metaphorical, whereas the other qualities are literal (in that conventional paintings change very little while one looks at them). This lack of distinction between basic and derived concepts, and between literal and metaphorical concepts, pervades much of the critical and aesthetic literature of the arts. To a reader with a predominantly scientific education, these often appear to be evidence of inexact and hence dubious analysis.

The structural elements "continuity" and "closure" are associated with the perception of gestalt. This is the propensity of the human mind to seek a wholeness of form from component parts. It is probably associated with a psychological need to "chunk" cognitive elements into higher level elements, so generating a hierarchical mental information structure. This reduces the demand on the limited capacity of the short term memory in cognitive processes (Moates, 1980:55).

The structure "rhythm" is associated with the mathematical concept of symmetry. Generalised symmetry is the result of some abstract operation capable of transforming one element of a pattern into another (Pedoe, 1957:114). In one dimension (e.g., in time, or along a line), the simple symmetry operations are translation, reflection and scaling. In two dimensions, a rotation by an arbitrary angle is also possible, leading to the 17 possible planar pattern forms (lattice space groups) (Higman, 1955:106). The structure "rhythm" is the appreciation of one dimensional translation symmetry. "Proportion" refers perhaps to scaling symmetry. "Tension" and "balance" appear to refer to particular forms of reflection symmetry. "Tension" is reflection symmetry along an axial line at an arbitrary angle.

"Balance" is a more subtle aspect of reflection symmetry, being the equality of moments of forms about a vertical axis. Thus "balance" is concerned with both "mass" and "interval".

These elements, properties and structures can all be used to analyse a dance pose, although some interesting limitations have appeared. The human observer of dance appears to have only a limited ability to discriminate direction and position. Most dance description techniques use only eight possible facings in the horizontal plane e.g., ballroom (Moore, 1951:38), ballet (Robins, 1981:33), Benesh notation (Brown, 1984:83), Labanotation (Brown, 1984:20). In Labanotation, these are generalised to 28 directions in three dimensional space, at the corners and centre of a icosatetrahedron.



The 28 directions of space in Labanotation

In ballet, only five levels of the foot are used in the Cecchetti system. That system also only uses three positions of the hand and five directions of the head (Grant, 1982:91).

Despite metaphorical attempts to allude to the temporal dimension, understandably the most popular subjects for paintings have been stationary: landscapes, still life and portraits. The stationary dancer has also inspired a number of painters.

Many of the paintings of dancers by Edgar Degas show stationary figures, such as the curtsy in "L'Etoile (Bouret, 1965:112).



L'Etoile by Edgar Degas (1878)

He seemed particularly to have been intrigued by the "tendu derriere" position, which he depicts in several of his paintings of dancers, e.g. in "Dancer" (1877), and in "The Dance Class" (1870)(Bouret, 1965:61).



"Dancer"  
Edgar Degas, (1877-80)



"The Dance Class"  
Edgar Degas, (c. 1870)

These works seem to be more in the nature of complex portraits of dancers, than paintings of dancing.



A still dancer is more akin to sculpture than to painting, as sculpture contains the third dimension of space. The inferences about planes and depth in painting are explicit in sculpture. Degas again captured dance in stationary poses in sculpture, such as "Little Fourteen Year Old Dancer" (Roger-Marx, 1956:4) and "Spanish Dancer" (Terrasse, 1974:69).



"Spanish Dancer",  
Edgar Degas (1882-95)



"Little 14 Year Old Dancer",  
Edgar Degas (1882-95)

In a dance pose, symmetry (particularly left-right reflection symmetry) has been condemned by Doris Humphrey. She claims that it is too dull to be used except in beginnings, endings, and rituals (Humphrey, 1959:16). She suggests it conveys a feeling of lifeless safety which is the antithesis of what any dance is about (Humphrey, 1959:50).

She also suggests that other aspects of the lines of a figure also convey feelings. A figure with curved lines ("succession") conveys mildness. A figure with straight lines ("opposition") conveys power. The power increases as the lines become perpendicular to each other.

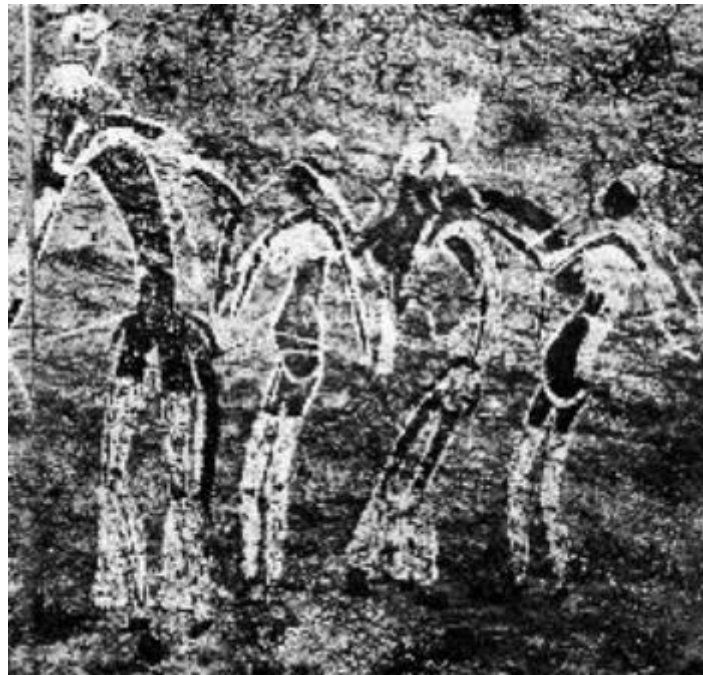
Humphrey also described how the various possible placings of a stationary figure on a stage convey various feelings. She suggests that the upstage corners convey heroic strength and power. The centre-stage conveys a feeling of power at first, but this fades because of its symmetry. Downstage is personal. Positions on the diagonals, away from the corners and centre, convey a precarious feeling of weakness (Humphrey, 1959:74).

## CATEGORY-2

Category-2 moments can be analysed in some ways similarly to Category-1 moments, because the moment when a dancer changes from rising to falling, from compressing to expanding, from stretching to contracting: all have in common a moment of zero velocity with a non-zero acceleration. This gives the visual appearances of both stillness and of motion at the same time. As such, it lingers in the eye because of the zero velocity, and it lingers in the mind because of the paradoxical perception.

These are the moments of maximum and minimum breath, the peak of a rise, the moment of recovery. A sequence of these provides a natural rhythm to which a dancer can move (Humphrey, 1959:106). (This is discussed later, under the heading of Repetition.)

The moment of suspension is a popular one with artists. The earliest of all paintings, the rock paintings at Tassili in Algeria, seems to show figures suspended in midair at the height of a jump, with feet extended, and the body and arms arched back (Wosien, 1974:pl.41).



Rock painting, Sefar, Tassili n'Ajjer, Algeria.

Another early painting of dancers on the wall of the tomb of Mehu, Saqqara, Egypt (2500-2350BC) shows a moment of suspension at the height of a high kick (Wosien, 1974:pl.35).



Acrobatic Dance, Tomb of Mehu, Saqqara, Egypt, c. 2400 BC.

Again the shapes and placing of figure at these moments conveys feelings which are under the choreographer's and dancer's control. The comments of Humphrey on symmetry, opposition, etc., apply equally then to Category-2 moments.

### CATEGORY-3

A figure that is moving at a constant speed can be viewed in its own inertial frame as being at rest, just as there is no sensation of air movement to the occupants of a sailboat running before the wind (Dingle, 1940:1). In the terminology of Laban, constant velocity movements are called gliding, which is a movement that is light, direct and sustained (Dell, 1977:37).

The closest to a Category-3 moment in dance is perhaps the entrance of Cupid in "Daphnis and Chloe" by Graham Murphy (Sykes, 1980:23). The figure is on a skateboard, and so has a stationary pose in his own inertial frame even though he is moving relative to the audience.

As the figure in gliding moment is stationary within their own inertial frame, the analysis methods of painting and sculpture alluded to above may be applied to that stationary pose.

A fascinating aspect about a movement that has no acceleration is that it will consequently have no literal temporal rhythm, although it may have a metaphorical form of spatial rhythm as discussed above. We are so used to the presence of temporal rhythm: breathing, walking, night and day, etc., that its absence attracts our aesthetic attention.

Many choreographers find difficulty in composing with the absence of rhythm, so most dance compositions are fashioned with some sort of rhythm (Horst, 1987:43). An exception appears to be ballroom dancing, in which one aim has been stated as trying to achieve "effortless flow" (York, 1964:48). This is particularly applicable to the Slow Foxtrot in which the 4/4 rhythm is negated by taking three steps to the bar.

Another form of constant speed movement is a constant rotational velocity, as when a figure is turning. Such a figure may be analysed in a coordinate system rotating with the figure, relative to which the figure will be stationary. This allows the use of the analysis methods alluded to above. For example, the shape of arms, legs, body, etc in a "pirouette" are aesthetic elements, and can be used by the choreographer and dancer to convey intended ideas.



#### CATEGORY-4

The untutored eye finds it comparatively hard to capture the shape of a figure who is both moving and accelerating. It appears as a moment of transition. However, such shapes are important. For example, the "port de bras" is an important part of every ballet class, and the movements of the arms were the essence of the celebrated "Dying Swan" solo created by Fokine for Anna Pavlova (Robbins, 1981:32).

Despite this difficulty of visualising the transitional shapes of a figure in mid-movement, several artists have tried to capture them. Such forms are shown by many of the paintings of Toulouse-Lautrec, such as his poster for La Goulue at the Moulin Rouge (Novotny, 1969:pl.23).



"La Moulin Rouge" by Toulouse Lautrec, 1891.

One is tempted to imagine that Lautrec was interested in the ungainly lack of balance of a figure in transition as an expression of his own envy of a dancer's ability to move, as he himself was partly crippled.

Pieter Bruegel the Elder also painted dancers in mid-movement e.g. in "Wedding Dance" (Bovi, 1971:56) and "Peasant Dance".



"Wedding Dance" by Pieter Bruegel the Elder (1566).

Bruegel's figures are out of step with each other, which helps his characterisation of the peasants' joy and resignation, and also his poking amused irony at their simplicity, poverty and discoordination (Bovi, 1971:10).



"Peasant Dance" by Pieter Bruegel the Elder (1569).



The ways in which a movement is made were classified by Laban in terms of four effort qualities : weight, focus, flow and time (Dell, 1977:12). This has been formalised into an Effort-Shape Notation, in which one of 81 symbols is associated with any movement, depending on whether each quality is positive, negative or neutral:

| QUALITY | positive | negative  |
|---------|----------|-----------|
| WEIGHT  | strong   | light     |
| FOCUS   | direct   | indirect  |
| FLOW    | bound    | free      |
| TIME    | quick    | sustained |

Table 2  
The effort qualities of Laban

The meanings of these qualities and examples of their combinations have been extensively discussed (Dell, 1977). People trained in the use of this are very skilled in observing Category-4 moments, which are otherwise so elusive for the untrained observer to appreciate. These qualities are especially valuable for constructing exercises to educate dancers in the nature of transitional movement.

## REPETITION

The human visual system has the ability to perceive some forms of symmetry quickly. Considering the two simplest forms of symmetry in one dimension: repetition and reflection, the eye can discern spatial reflection symmetry much faster than spatial repetition symmetry (see Figures 3 and 4).

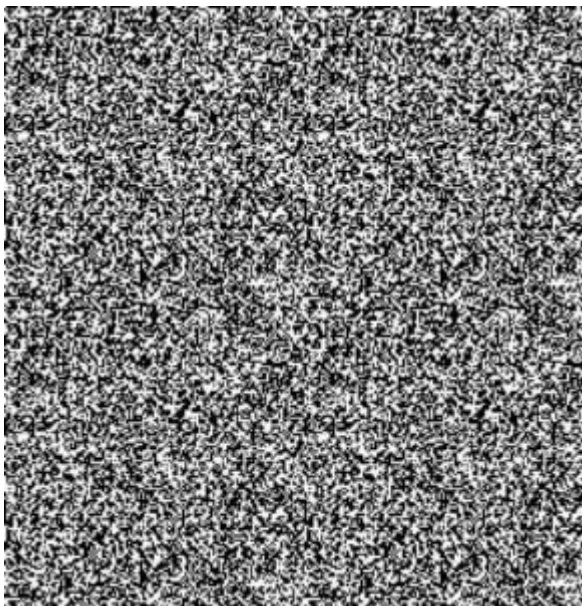


Figure 3  
A random pattern  
repeated into the other 3 quadrants

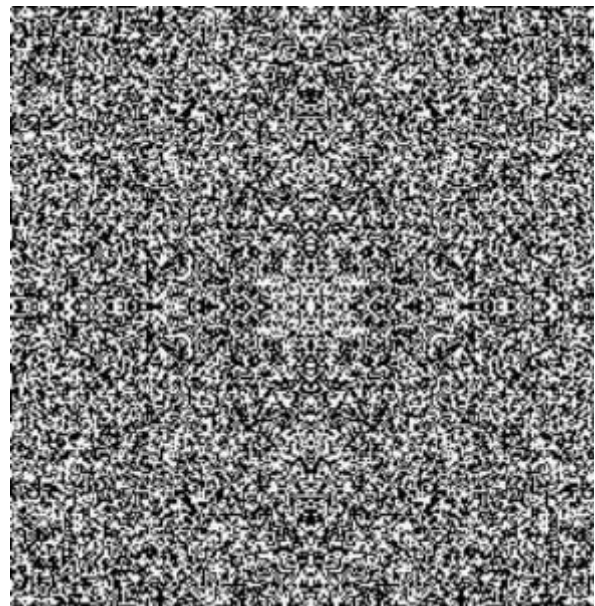


Figure 4  
The same random pattern  
reflected into the other 3 quadrants

Paradoxically, the human brain discerns repetition symmetry in time much more easily than reflection symmetry in time (see Figures 5, 6 and 7) (Herbison-Evans, 1989:11).

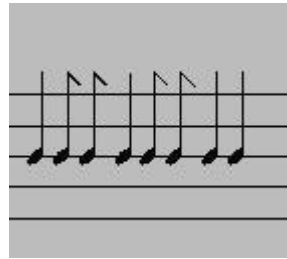


Figure 5  
An arbitrary rhythm :  
Dah Diddy Dah Diddy Dah Dah

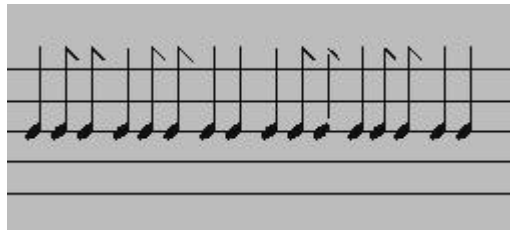


Figure 6  
The arbitrary rhythm repeated :  
Dah Diddy Dah Diddy Dah Dah Dah Diddy Dah Diddy Dah Dah

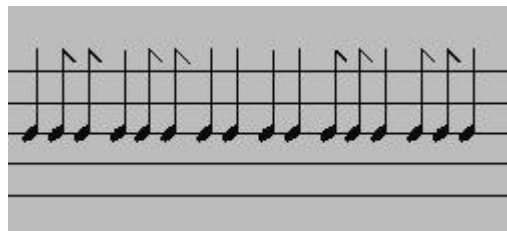


Figure 7  
The rhythm followed by its reflection :  
Dah Diddy Dah Diddy Dah Dah Dah Dah Diddy Dah Diddy Dah

The appreciation of spatial symmetry is important in painting and sculpture. The appreciation of temporal symmetry is important in music. The appreciation of both is important in dance.

Repetition symmetry is manifest in music at several levels. It provides the basis for the rhythmical beat and bar structure. Many of the various forms of musical rhythm derive from dance e.g. Pavane, Galliard, Allemande, Courante. Sections in various rhythms were used for suites of dances in the 14th century, and the music for these evolved successively into the musical forms called the suite, the sonata, and the symphony (Compton, 1963:9/558). These contain repetition at a more abstract level such as theme and variations or ABCA (sonata) form or ABACA (rondo) form (Horst, 1987:26). These forms are as satisfying for a dance as for music.

The power of temporal repetition is that it engrains the movements into the mind so they can be thought about. An observer can capture the "fleeting moment" by observing its repeat.



This was well understood by Petipa, who typically used four repetitions of each eight count dance phrase in his dances. He usually made it more interesting by modifying the fourth repetition as a preparation for the next sequence.

## MEANING

The three main devices used in the literary arts are also applicable to dance: metaphor, allusion and allegory.

These occur when a position or movement reminds the viewer of something meaningful. Psychological studies have shown that cognitive retention is increased when a perception is meaningful (Moates, 1980:105), so that meaning assists observers to capture the fleeting moment. This happens when by allusion, metaphor or allegory, the movement has an association in the observer's memory with something else. It may be with another movement, or a feeling, or indeed anything.

Cunningham has been associated closely with the idea that dance can be self contained. This can be viewed as a use of the association of movement with movement, and so the meaning of a dance is the movement (Livet, 1978:81). This view can be traced back to Hegel: that dance is not an Art because it does not always express some idea from outside dance (Sparshott, 1988:33).

The communication of emotional feelings by means of movement is an essential part of American Modern Dance (Horst, 1987:15). However, other dance styles may also convey emotional feelings. For example, a well danced Giselle will communicate the innocence and pain of a young girl (Horst, 1987:19). Any idea can be conveyed by movement, as is evidenced by the sign languages used extensively by the deaf. A limited set of gestures are used in western society to convey simple ideas. The significance of mimetic gesture in dance has been appreciated ever since the writings of Aristotle (Sparshott, 1988:146). These range from the rudimentary gestures of ballet (such as pointing to one's ring finger to indicate marriage) to the highly refined mudras of Indian dance, and are embedded in the various dance traditions. Williams especially has been vocal in pointing out the cultural basis of not only the understanding but even the observation of human movement (Williams, 1976).

The metaphorical interpretations of a dance movement in the mind of a percipient may not always be those intended by the choreographer or dancer. Dance critics are particularly adept at these, such as the comment that "Jooss's chipper choreography makes the infanta look like a gamboling sofa" (Croce, 1978:212).

## CONCLUSION

The observer of a dance mentally captures the "fleeting moment" in a number of different ways: via the spatial form as in the visual arts, via temporal repetition and form, as in music, and via the communication of meaning as in the literary arts. These all need to be considered in the choreographic process, so as to maximise communication with the audience.

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