

## CHAPTER 5

### DANCE: MOTION AND THE CREATION OF SPACE

#### > THE CREATION AND DEFINITION OF SPACE

##### > CREATION OF SPACE

Dance is the *art of motion*. Through motion dance *creates* space as well as uses it. Thus space is still primitive in dance. Through motion dance also *defines* the properties of the space it creates. For the first time on the spectrum the performer acts in external space to simultaneously create the work in external space. Being in external space, dance is also the first art on the spectrum in which causality, as we experience it in the everyday reality, plays a conspicuous role, acting to limit what motions are possible. While the infinite variety of forms available to animation is no longer possible, a rich range remains, so that, like animation, one of dance's chief aesthetic concerns is to explore the fluidity of form. In the next art, theatre, the limitations of cause and effect will show up again, but in a different form: that of the mechanism of human motivation and response.

It is the youngness of a space that is being newly created in time, as well as the primacy of time over space in motion (which is the agent of this creation), which gives to dance its place on the spectrum next after animation. When the lights come up on stage, the seed of artistic space is born into time, and through motion that it will germinate and then expand into what was up to a moment ago simply part of the everyday space.

To explain how space is created by the dancer, as much as it is the passive vehicle sustaining motion, we can envision a dance that begins in complete darkness. Nothing is visible. As a result, we have no knowledge of the space in front of us. A narrowly focused spotlight then appears that illuminates a solitary, motionless dancer. Some knowledge of space now exists, but only within the narrow perimeter of the light beam. Time comes to animate the dancer. S/he begins to move, but *into* what? Fortunately the spotlight moves along with her. New space is created where s/he moves, but the space left behind a moment ago ceases to be perceivable and retreats from consciousness. At any one time, space is defined only in the presence of light, which can be taken in this instance to be the same as our conscious awareness. The dancer's former positions no longer being visible, we can only compare h'er current position with a former position in terms of time and not in terms of space. Mutual determination of positions is a key attribute of a fully formed space. In this situation, however, the only *place* in space is *now*<sup>1</sup>.

In place of a spotlight creating space as it illuminates it, we can think of space itself as a large fabric capable of covering the entire stage, but initially bunched up over a single, motionless dancer. As the dancer begins to move underneath it, the fabric gradually stretches and expands. We perceive the dancer's motion primarily because the cloth expands. The area covered by the cloth gradually grows larger, though not at a steady rate. Wherever s/he has already moved, part of the cloth has been left behind. Initially, how the cloth unfurls is very sensitive to the route of the dancer and the present tense of time. Later on, the dancer may pass through parts already explored, and further unfurling of the cloth occurs less frequently, reaching a final extent as the piece ends in time.

*How* the fabric is unfurled is up to time, which is still in the ascendancy over space. In this example, from the internal urge to move, space is unfurled simultaneously with motion that would occur within it<sup>2</sup>.

It might be objected that the space of the stage was already there before the dance began. Consider a painting of a country village. The painter initially confronted a blank canvas which was nothing but a limited part of the everyday space. When the work is completed the frame holds within it a different space than the everyday space: the space in which the village exists. The village is not contiguous with the everyday space. With painting, we are usually not there to watch the artistic space come alive from the everyday space. With dance, we do see it happen. Before the (re)creation of the dance begins, the stage is part of the everyday space. When the dance begins the transition to the creation of the artistic space begins.

Another objection is that it wasn't space getting stretched as a fabric, it was just a piece of fabric already in space. According to the theory of the big bang space, though always infinite in extent, space expanded through time. The universe did not expand *into* space. Dance reenacts the creation and expansion of space: from the energy released in time from movement.

A dancer does not have to literally be under a cloth for us to sense in dance how space is being brought alive through motion. Space is a medium in which motion occurs, just as water is for a boat. The dancer can make us sense it accepting, resisting, parting, closing back up, in as a response to motion. There is an energy as if of a wake that in another art might turn into a path. As space is brought alive through motion in dance, so space in theatre will be brought alive through human action.

## > DEFINITION OF SPACE

As there were different musical spaces (see chapter two), so there are different types of external spaces. As we could deduce the properties of a musical space from the ways that notes behaved (or “moved”) in it, so we can define the properties of an external space by the ways a body moves in it. Certain motions, accomplished without effort in one space, appear more labored in another, as if undertaken against increased resistance. This resistance can increase to the point that such motions can barely be begun, or they may be absent altogether. In general relativity space is envisioned as having a fabric which is deformed by mass. This is verifiable by the observable bending of light around massive objects. Motions of dancers can also be bent when trying to take the shortest path from point A to point B. Perhaps the rate of curvature varies with the velocity of the dancer, indicating the presence of a force field in that space.

A dance space can be a reflection of a mathematical space. Non-Euclidean spaces are suggested by dancers who seem to try to move in parallel paths but cannot, or dancers who, no matter in what direction they start to move, find their paths deflected into parallel tracks.

How action is communicated through space reveals information about a space. A dancer may make a gesture as if pushing another dancer who is, however, removed in space. The latter may react as if being directly pushed: action transmitted at a distance. This reaction can happen immediately, or be delayed in time - implying a *rate* of propagation through space. While the examples so far have a

scientific flavor, a choreographer can create any hierarchy of motions on purely aesthetic grounds, and define thereby a space. The only restriction is that every motion must also be possible in the everyday space. Thus the artistic space will involve a redistribution and/or suppression of what is possible due to physical causality.

We may object that in every dance it can only be the properties of the everyday space that determines what motions are possible, that the dancer simply *chooses* not to make certain motions, that are nonetheless possible, or *pretends* that certain motions require more or less difficulty than they actually do. The functioning of the human body, indeed, occurs in the everyday space, but the space that the observer experiences, through a sympathetic intuition of the dancer's motion (see below), is not the everyday space, but an artistic space, a space with its own properties. If, for instance, certain wanted motions do not occur during the dance, we may assume that it is because they are not possible in the artistic space.

### > FROM ANIMATION TO DANCE

With dance, the changing forms of animation have stabilized into a persisting entity: the human body. At the same time, the artistic space of the work becomes shareable with the viewer. At the start of the spectrum, when the relations that could exist among the pure sounds of music were restricted to just those that also were consistent with relations between words, music was coerced towards poetry. Both poetry's images, and the sounds of words that are the source of these images, both lay internally in our imagination (hearing, we recall from chapter two leads internally to quality and time). When those images separated from meaning and were projected outwards, poetry devolved into animation. Animation's space was "privileged" in that it was immune from our physical interaction. There was no way for us to physically enter it and change its content. The sources, however, of those images came from the everyday space, for instance a projector, or a computer screen. If now we were to require, as was the case in poetry, that both the source of the images and the images themselves both be in the same space, and, as the source of animation's images are already in external space, we would need to put the images themselves into everyday space. The result is that the work of art, for the first time, enters the space in which we, as physical entities, perceive the work the work of art. The work's images are no longer immune to our physical actions. Space, for the first time on the spectrum, is strong enough to absorb the risk that the artistic reality of the work will not dissolve as a result of physical interaction with viewers, viewers who now remain such only out of convention.

As with animation, there is a choice of agents to produce the images that we see in work's space. A mechanical device, such as a mechanized mobile, could be tried. Nature offers us possibilities in the form of waves at the beach, trees blowing in the wind, even lava coming down the slopes of a volcano. The agent that offers, at this point in history, the most variety of form together with the greatest degree of intentional, artistic control, is the human body itself. This means that the agent that itself becomes the images of the work is identical to our own physical self as observers. This sets up the possibility of our responding to dance through intuition as well as outward perception. We discuss this just below at the beginning of the detailed discussion of motion in dance. The choice of the human body as the content of the work of art lays the basis of a progression on the spectrum that continues from dance through the next two arts: theatre and literature. All deal with

the human body in one way or another, first in dance as a physical presence, then in theatre and literature as a psychological presence.

In dance we continue to witness the fluid change of shapes through time that began in poetry and continued in animation. Whenever shapes change shape the question may be raised: *what* is it that is changing shape? The answer in dance is self-evident: the human body. In animation, if the change in shape was ongoing and volatile, we may never have thought to ask the question. If we did, it may have been that it was only sometimes or only temporarily an answer was obtainable: “it is a chair”, a “cloud” - in other words an *object*. Or the answer might be more abstract in nature: it is a “rectangle” that is undergoing changes in color, size or proportion. However if the chair changes into a bureau, or the rectangle changes into a circle, the underlying identity we have conjectured will cease existing in time. At the limits of abstraction we might notice that a certain color persists, or that a perimeter holding within it a changing shape continues to do so without splitting or merging with another perimeter. Ultimately, however, animation can easily cause changes in form that undermine any attempt to establish an identity of that which persists in spite of change, other than our own persistence as the conscious witnessing agent.

With dance the question of *what* has been decided once and for all. It is the human body that underlies all changes in appearance (although the choreographer can work in the opposite direction to try to disguise this fact). There has been a trade off: the persistence of a common entity underlying change has significantly limited the gamut of possible change, but we have gained access thereby to the space in which the change is taking place. If in animation the danger was that in expressing dynamic form, the persistence of something underlying change is broken in time, then in dance, it is the opposite concern, that regardless of how great an attempt is made to change form, we always tend to see the presence of a human body underlying the changes. A change in emphases has occurred: from how something changes to what is changing, and from change in shape that secondarily entails motion in parts of the shape that is changing, to motion by a persistent entity that secondarily changes shape as a result of the motion.

## > MOTION

### > THE INTUITION OF MOTION AS A QUALITY

Space first appeared in poetry, but the subject of poetry was not space itself, but more the temporal states of mind suggested through the sequencing of words. In animation, the subject could be defined as how space responds to time: the agency is time, the venue is space. In dance, *space*, re-created by motion, is itself the subject of the work. Motion unites space to the will of time. Via motion space is created and explored. Via motion points in space are *brought* into relation. Later, in the spatial arts, points in space will simultaneously be in relation with each other, here it is sequential.

Though revealed in space, many of the most important attributes of motion lie within time only. If we close our eyes and slowly move our arm, we will experience a changing series of purely qualitative sensations arising from contractions and releasing of many muscles. We will be experiencing motion purely internally, without requiring any perception of what is concurrently occurring to us in space. Seeing or visualizing arm moving through space will detract from purely

kinesthetic, and self sufficient, aspect of the experience of motion. Even the speed of the motion becomes merely a qualitative perception of the rhythm of our changing states. Each motion generates its own series of changing states or feelings and stamps it with it's a particular, subjective identity.

Space, in dance, serves the important function of communicating to us the presence of motion. What we then do with this information goes beyond space. We turn it into an internal experience. This is easily accomplished because the object in motion is a human body just like our own. Unlike all other objects, we can experience it from the *inside* as well as from the outside. Through sympathy and empathy we can feel the motion as does the dancer. We do not need to fully contract our muscles and exert ourselves, as does the dancer, to feel the quality of the dancer's motion. Virtual muscle movements suffice, in fact this has a definite advantage. We get to experience the pure quality of the motion without attendant strain and effort that the dancer has no choice but to experience in a gravitational field.

To the extent the dancer is experiencing the effort of hard work, s'he exists to herself in the everyday space of gravity. Minus that effort, we can experience the same motion as if occurring in an artistic space, removed from cause and effect. The dancer exerts h'er effort in our behalf, so that we may enjoy the aesthetic of both the spatial and temporal qualities of the motion. Surprised by the lack of accustomed effort, we feel physically enhanced beyond our normal capacity<sup>3</sup>. We may quite not soar like birds, but we move purely and effortlessly as though through space of a dream.

Without vision, and therefore without space, we would not know of the dancer's motion, and we would not get to experience motion resulting from a work of art versus our own daydreaming. In this important sense, space exists in dance only in order to segue to time. While the exact nature of the intuited quality of a motion will depend on our spatial perspective relative to the dancer, the quality, once intuited, exists independently of space. It does not matter therefore that we see the dancer and the stage differently than the dancer does. Nonetheless, a counterpoint, unique for each viewer located differently in space, exists between the internal and external aspects of dance.

## > MOTION IN MUSIC

The fact that motion can exist as an inner quality, separate from the spatial and visual cues that may have given rise to it, means that we can sense motion in the absence of such cues. Sound is sufficient to this purpose because it is characterized by changing intensity and pulsation. By instilling motion in us, that motion may then turn outwards and inspire us to physical motion. This would be the opposite process of the experience of dance. That dance is so often accompanied by music attests to the strength of this outward impetus.

Music may be said to contain the final distillation of physical motion after all its spatial manifestations have been removed. We can approximate this state without music if we *try* to dance but without allowing ourselves to move. We would loose direction, we would loose spatial orientation, but we would keep the exhilaration of a feeling that is immanently moving outwards from within. It is simply that we do not provide an outside to receive the impetus. It is just the impetus by itself.

## > CAUSALITY: DANCE VERSUS ANIMATION

Since animation can depict a human figure as easily as any other, it can show such a figure dancing, even depicting visual evidence of resistance to motion due to gravity and inertia. Can dance then be considered a subset of animation? No, the difference is that dance's space, but not animation's space, is continuous with ours, and so we can physically interact with the work. Were it not for this fundamental difference between their spaces, we could get from animation to dance through a series of continuous, gradual steps, where shapes more and more accurately resemble human beings, and motions are progressively restricted to those possible to human bodies.

In dance, we begin to experience cause and effect reaching out from the everyday reality at the center of the spectrum. Compared to the unfettered possibilities of change in animation, beginning with dance, and continuing through the remaining temporal arts, whether by compunction (dance) or in order to maintain believability, without which we ourselves would dispel the artistic reality, cause and effect begins to have a limiting effect on art. The dancer goes out of h'er way to mask these limitations, so that in tandem with our internalized sense of h'er motion, we can maintain our awareness of an artistic space on stage.

In music, because themes were made of bodiless notes, there was nothing to oppose their being turned upside down or inside out in music's pseudo-space"<sup>4</sup>. Poetry's images too were bodiless, the only limit to how they could change were limitations to human thought. The only limitation to change of images in animation was that they still be observable in space. In dance, for the first time so far, we can not guarantee that a certain maneuver, otherwise desirable structurally or aesthetically, is in fact doable. The body is subject to limitations in terms of speed, strength and agility.

One effect of causality is that dance is the first art to link space and time in such a way that a continuity in time must also be experienced as a continuity in space. If, during time, the dancer wishes to get from place A to B in space, s'he must go through a continuous set of intermediate points in space. Space cannot dissolve and reappear as it did in poetry and reveal to us the dancer in a new position. Nor can the dancer disappear and then instantaneously reappear in a new place, as could happen in animation. At best this can be suggested in dance by turning the lights off for a moment and having a second dancer, resembling the first, appear in a new location.

In animation, one shape could pass through another, this is not possible for humans. At best it is suggestible when two dancers cross the same line of sight. In the pas de deux, one dancer cannot simply wave h'er hand and cause h'er partner to rise into the air. In the presence of a gravitational field, the dancer is confined to being on or near a, usually horizontal, supporting surface. Any motion directed upwards becomes a curve. All motion is pulled downwards regardless of the desired vector including movement directed horizontally. The dancer can leave the ground, but only temporarily unless aided by other forces than h'er own. All motions must start and end with some part of the body in touch with the ground. The expenditure of energy against gravity is continuous. Any new position reached by the dancer is a compromise between an intention and a

demand. Movements and positions are prized that press the limit of how far gravity can be resisted: standing on one leg, raising the body on toes, the long leap, etc..

All of the limitations mentioned in the last paragraph can be overcome in the future by staging a dance in a weightless environment. Nothing, however, can change the location of the body's points of articulations, or the range of motion each provides. An animated figure can articulate anywhere. Compared to animation, it is a very limited set of possible points of inflection. If we see a neck turn sideways somewhat further than is normally possible we are amazed at the person's flexibility. If the neck were to rotate further (as in the movie the "Exorcist") we would no longer be amazed, for we would expect the neck to break, and if it doesn't then we no longer react to it as if it were watching a real human body. We would lose believability in the work.

The awareness of the presence of causality affects our ontological interpretation of the dance. In animation, if a square were to disappear in one place and an identical reappeared in another, it is irrelevant whether we think that the same square is in a new place or a new square succeeded the old one. In dance, we are more interested in whether we are still seeing the same dancer someone similar comes on stage from a different direction than a dancer who just left the stage.

In spite of being limited by cause and effect, dance is still a rich art. There is the innate interest in a subject that is the same as ourselves. The human body is just pliable enough, in just enough places, that a rich harmony can be produced from even a single body in motion. Using two or more bodies increases the range of variety of forms. Bodies can be conjoined to appear as one object or, though remaining separate, imply a common shape as a gestalt. Though one body cannot split into parts, an amalgamated body can. Change of shape can result not only through the articulation of joints but due to the changing perspectives between the dancer and the viewer. There is a counterpoint between what is changing and what isn't, as well as a persistent counter-play between the persistence of the human body as the sustainer in time of changes and the perception of those changes.

### > MOTION APPEARS CONTINUOUS IN CONSCIOUSNESS

Time and space are dynamically linked by motion. How the dancer *gets* from the present to the future and how s/he gets from one place to another in space are indissolubly fused. When we try to describe our act of perceiving motion, we find that we are describing something that occurs *while* motion is occurring, even inside the shortest perceivable moment of time. Otherwise the continuity of the motion, the very *feeling* of motion it bears, would be lost to us. We would deduce change from a comparison of separate earlier and later states, but we would lose the feeling of motion that connects the states, no matter how closely apposed the states are. Our awareness of motion is minus any notion of comparisons. It is only later, after motion has accumulated, that if we choose, we can make comparisons to later and earlier states as a way of "verifying" outside of the immediacy of experience that motion has indeed taken place. Motion is perceived in the same way as change of shape in animation, *within* the present moment. Through dance, time and space are fused within the flux of the single moment of consciousness.

From this we can deduce that the present *moment* of consciousness is not a mathematical instant, analogous to a point in space. If it were, then a bird in flight would always seem to be in just one

particular place, though the coordinates of that place would be constantly updated. That is not what motion *looks like* to us. The present moment is already duration, time flows *through* it. Motion does not occur between conscious moments of time, but within them. Otherwise, motion would be perceived as a series of halts, as if looking at a movie one frame at a time, and, in between the images, there would either be nothing or a continuation of the previous image. The propensity to see motion within consciousness is so strong that when if we advance a video tape of a dancer's motion one frame at a time, even if there is a discrete change in the dancer's position between one frame and the next, at the moment when the new frame comes into view we *fill in* any jerkiness with the perception of a continuous motion.

## > MOTION AND PATH

The path of a motion is what is left of motion after it is completed in time. If the experience of dance were mostly spatial, and not still largely temporal, it would be possible to trace the path a dancer has followed, then sit down and contemplate this accumulated path, or spatial residue, and from it understand the aesthetic qualities of the dancer's movement. Such is obviously not the case. In dance, how motion occurs through time is of more importance than the path it leaves behind.

If the dancer left behind h'er in space a visible path, eventually we would no longer be able to detect any motion at all. As s'he continued to move about the stage, more recent parts of h'er path would start to crisscross older parts. Parts from different times would become embedded in each other. At some point space would become filled to capacity. The present tense of the motion would be undetectable against a filled background. Motion would be relegated into the past only. The shape of the path, no longer animated by motion, would exist as a timeless spatial form. If the path left behind had been solid, i.e. material, not only would the perception of motion eventually be lost to the observer, but space would become so full of material that any further motion on the part of the dancer would cease as well, and be blocked; time would dissolve into space.

We see that the perception of motion requires empty space<sup>5</sup>, while a purely spatial composition requires the effects of time to be nullified. Space acts as a repository to hold indifferently the effects of various times. Once motion has completed, if we start with the path, we can never reestablish the motion that gave rise to it. We cannot date the motion, we cannot even state with any certainty whether motion at all ever happened to generate the form we see presently. Even if the path is as simple as a straight line, and we know with certainty that it was generated by a moving paint brush, we cannot tell in what direction it was generated, whether slowly or rapidly, or whether the motion paused or reversed, and if so, how many times.

When the paint brush generated the line, it was not following a path that was already there, for that would beg the question of path. Motion can only be experienced and as it happens. While the path of an inanimate object in the everyday world can be predicted ahead of time if certain initial conditions are given, the motion of a living body, until the motion is already in the past, retains an essential element of freedom in time, i.e. of unpredictability. We do not know where it will end up until it gets there. Prior to the dancer's motion, if we arbitrarily pick out a place on the stage, there is no way of determining whether that place will become occupied by a dancer during the performance. The answer lies with time, which in this sense is more important than space in dance. Occupation of space is time dependent and not constant as it will be in a spatial work of art. In



theatre, an analogous question as to whether a particular event will be present in space before us, will again be time dependent.

Before the dancer's motion, the space, which *will* be passed through, exists, but is undifferentiated from the rest of space. It becomes activated by the energy of the motion passing through it. This notion of energy activating space will recur in theatre. As the motion occurs, space cedes to the motion of the dancer rather than filling up with content. It is like a calm fluid that is stirred into turbulence by a moving object.

By using a video camera, we could create a *temporary* trail behind the dancer. This would enable us to be aware of both the motion as it occurs and the spatial properties of the path left behind. We would be able to retain a sense of the order of things in space as a function of time, while still being able to see (most of the time) where the advancing edge of motion is. By adjusting how long the trail lingers before fading, we could in effect adjust the *balance* between time and space<sup>6</sup>.

We have seen that motion is proper for in a temporal art, while the results of motion, once time has ceased to flow, in the path it has left behind, is appropriate for spatial art. Once the static path is there, a second motion can set in. Our eye is free to contemplate the path in any way, roaming over it in any direction and any number of times. We will discuss this when we discuss the spatial arts.

## > MISCELLANEOUS

Dance is the only art that is concerned at once with movement and material objects (human bodies). A sculptor, depending on the medium chosen, and only during the creation phase, can experience some of the pliability of material that is always felt by the dancer. The person watching a building under construction experiences a "dance" of people and material as the parts of the building come into place. Once these works are completed, however, the only motion left is our own as observers, and the result of our motion is less a perception of motion in the materials than a realization of the spatial properties of the work.

Motion links parts of space, that in space alone, would remain separate. Like a needle and thread, the movement of the dancer ties space tangibly together. Motion heals rifts in space. If a dancer reaches out to the right as far as possible s/he cannot at the same time reach out as far left as possible. However, given time, s/he can do both. Through time right and left are unified. An empty space that now exists between two dancers can be healed if they then move together. In dance, all *spatial* facts are temporary facts that can be overcome by *time* because they arose in time.

Motion and stasis are relative, one can exist inside or outside the other. If a dancer is at rest, there is no indication which part of the body may move next, or if movement will happen at all. We need time. Some parts of the dancer's body can be in stasis while other parts, or even the body as a whole, can be in motion; or the body as a whole can remain in the same place while parts of the body can be in motion.

Though there needs to be an act of will to produce motion, which act may be "distributed" between the dancer and the choreographer, our awareness of this force of will is secondary to our spatial and

temporal appreciation of the dance. In the next art, however, theatre, evidence of the presence of will, provided by the character's behavior, becomes central to our experience of the work.

## > MORE ABOUT SPACE IN DANCE

### > THE VIEWER'S PERSPECTIVE

Were it not for the historical convention of confining the dancers to one end of a rectangular space, dance would essentially flow *around* us instead of being only *in front* of us. As soon as the audience members remain fixed in place, the dancers must recycle through the same part of space in order to always remain in view. Motions in one direction must be balanced by motions in the opposite direction<sup>7</sup>.

Sight, at the same time it provides data on which we base our internal experience of motion, is limited by perspective. Our internal experience of motion will vary with our visual perspective of the dancer. When an object is heading directly towards us, at first we detect little apparent motion, only that the object seems to be slowly enlarging. Only later does its motion along our line of sight become clear. Motion that is transverse to our line of sight is apparent sooner. Many of the spatial effects of dance are dependent on choice of position by the observer. Two people, separated in the space of the theatre, may experience very different dances. In a Busby Berkeley musical, we may perceive a wheel in rotation, but only if we happen to be seeing it from above. Ultimately the dependence of the intuition of motion on perspective is "solved" by sculpture, because it will not change in *space* while we take all the *time* we need to see it from any perspective. The *price* for this solution however is that there is no longer any motion to be perceived. It is the price that space charges to time: for there to be motion in space, the appearance of that motion must be refracted into partial experiences by perspective.

### > CHANGING THE DANCER INTO A SPECTATOR AND VICE VERSA

If, during a performance, a dancer and an audience member chance to find themselves in the same place, an interaction will occur. Either the artistic reality of the dance will be halted or the spectator will become a part of the dance, which will be modified. We can thus conjecture back to an original state in which all who were present were dancers, but that the energy created by the dance led to a centrifugal force which hurled certain dancers further and further away from the center. Once on the periphery, these particular dancers interacted less and less with the other dances, and through stages gradually became observers. A spectator today can reverse this and allow h'erself to be drawn inwards towards the center. If, for instance, by not wanting to be confined via perspective to just a certain view of the dance, the observer may start to roam in space. Eventually s/he will be close enough to the dancers that it will be hard for h'er not to respond with sympathetic movements to the impetus of the motions around h'er.

### > THREE DIMENSIONALITY

Dance that is played out in a gravitational field is not fully three dimensional. It is compressed to some degree towards two dimensions. This can be mitigated by the use of different planes at

different heights, tilted planes, ladders, guy wires as supports, or even moving underwater. These only have a limited effect since gravity would still be at work, either abetting or impeding each motion.

## > THE "FRAME" OF THE STAGE

At any given moment during the day, our eyes take in only a portion of the space that entirely surrounds us. This fact of biology becomes the prototype for the *stage* or *frame* which plays a role in a number of the arts. It is easier to maintain an artistic reality in despite of the everyday reality if it occupies only a portion of the everyday reality. What is in the frame is universalized: it is seen as what would or could occupy *any* space, not just *this* space. In poetry, our imagination may frame what we see as do our eyes when looking outwardly. By animation a frame tends to appear as a distinct entity thus setting up a boundary between the everyday reality and the artistic reality. It continues to function, usually by custom, throughout the remaining temporal arts and into the beginning of the spatial arts.

The author has had an experience that vividly demonstrated to him just how useful a frame can be in focusing attention and thereby heightening the contained reality. I had been impressed by how painters like Turner or Homer could capture the shape of the surface water in turbulence though the shape was ceaselessly reforming itself? I found that by curling my fingers to form a frame, or “peep hole”, and looking through the frame at just a small part of the turbulent water, my eyes could rest on one spot without the motion of the water constantly drawing them off the spot. The result was that suddenly I was able to see clearly visible shapes though in rapid succession. Similarly, if we are in a public square, watching people moving about, their motions will seem largely uncoordinated. Create a frame, however, and by each person relating to the edges of the frame, each person suddenly relates to the others as part of a closed system.

## > WHEN THE DANCER HOLDS STILL

What happens when the dancer remains still? In music, structures built of sounds fall apart in the absence of change. Images in poetry last briefly then melt, they cannot be perpetuated. Poetry rarely has us imagine two or more images side by side, but in animation seeing this is commonplace. Once there is more than one image coexisting in external space, each can evolve at its own rate of time. It is also possible for one or more image to remain static while the remaining ones change. Animation and dance are the first two arts that invite comparison of two shapes in space, shapes that which will not necessarily change while we are engaged in making the comparison. Even when the body of a dancer is in motion as a whole, certain parts will remain the same. There will always be some duality between motion and non-motion. Growing within the temporal processes of the temporal arts along the spectrum, are the seeds of static presences that lead towards the spatial arts. Inside dance, as a dancers remain still, sculptures can come to birth, but they will fade before the *end* of the work. In contrast, a spatial work never *ends* in time. If a dancer remains still, especially if in defiance of active changes going on around h'er, there is a vivid experience of the counterpoint of space against time. We do not take a static form for granted in dance, within our experience of the work its time will be up. As it is happening it is something wonderful: an active, moving resistance to the still ongoing force of time, which is the natural

condition of living beings. The power of time, expressed in the motions of the other dancers, relentlessly builds up, until bursting the static damn, the body, that has been "holding its breath", is re-animated.

### > THE OMNISCIENCE OF THE VIEWER

Once there is a human entity present in external space, the question can arise whether or not one person is aware of another. Not all dancers (or actors in theatre) remain on the stage all the time. Yet we are aware of what happens to everyone while they are on stage. With dance begins a temporal omniscience on the part of the viewer. We know what takes place when people are off stage. From where does this power over time come? It comes from the growing assertion of space. Not all of what is happening is within the consciousness of all the participants, but it is within ours due to our privileged position in space.

### > MULTIPLE SPACES

If the motion of a single dancer can reveal the properties of the space in which s/he is moving, two dancers can reveal simultaneously the presence and properties of two different spaces. While the observer sees both spaces, the dancers may or may not move in a way to suggest one is aware of the other's space or presence. If a number of dancers look alike, and do not interact in any way with each other, we might think that we are seeing the same person in different spaces, each at a point in that space's time that coincides with our present. This is an adumbration of a division to the flow of time that becomes more prominent as the temporal arts approach the everyday reality.

### > THE PRESENCE OF HUMAN MEANING AND HUMAN FEELING IN DANCE

Dance anticipates an important feature of theatre. It is not only external motion that, via affection, we can intuit as an internal state or quality. Through sympathy and empathy we can also experience the state of mind that another person, removed from us in space, may be feeling. Whenever we react to something we see happening to others so as to attribute to it a human state of mind or feeling, it is an instance of the fourth of the types of meaning discussed in chapter one: human-meaning. Human-meaning occurs of necessity in a play or work of literature because the mental state of the characters or the "significance" of their actions is central to the work. It surfaces in dance too, but only because we cannot avoid it. There are myriad emotions, each of which has a set of physical signs and symptoms that betokens its presence. Sometimes the sign is a look on a face, a bodily attitude, or it is the direction and manner of moving. No matter how abstractly the dancer intends her motions, we will often see something that we can interpret as a cue to the presence of an emotional state. By intentionally sequencing these meanings through time, a dance can attempt to tell a story. Even in the absence of an extended plot in time, we can keenly sense prototypical emotional states in brief situations among the dancers. While the presence of human-meaning in dance is not essential to its temporal and spatial properties, it will be in theatre, as motion changes to *e*-motion, and telling a story will be essential in literature.

### > DANCE AND THE OTHER ARTS

## > ADDITIONAL DIFFERENCES BETWEEN DANCE AND ANIMATION

In animation, an entity in space can go out of existence instantly in time. In dance, presence in space cannot be a whim of time. Space has asserted itself sufficiently that it requires the dancer to move through space to its boundaries before disappearing.

Dancers (as well as actors in theatre) as living beings, respond to our presence. Animation can be programmed to respond to human presence, but only in foreseeable ways, as in virtual reality, and it requires an intermediary agency to *translate* motions in our space to responses in its space.

In animation, objects that do not depict humans can move and behave as if they were human. They can seem to dance, as the hippopotami in Walt Disney's "Fantasia". Where dance increases its aesthetic envelope by attempting to overcome human limitations, animation begins with no such limitations and then chooses to put in, or simulate, those limitations. Without such optional restrictions, an animated dancer could instantaneously change direction in defiance of inertia, or slow up while falling back to the floor. In the same way that animation can try to mimic human figures dancing, dancers can try to mimic theatre actors acting.

When a dancer's body gets smaller we attribute it to greater distance from us in our space. In animation we do not have to assume a change in distance to account for a change in size, we have no difficulty assuming the absence of causality in the form of projective geometry.

It requires no expenditure of energy in the *present* tense, during the experience of the work of animation, to cause a shape to move or alter in form. This is because the required energy has *already* been expended: in the past, during the creation of the work, and not in the artistic time or artistic space. It was not an energy of motion, as is required for a dancer to move in the here and now, but the effort involved in drawing or creating figures in the everyday reality and photographing them.

## > DANCE VERSUS POETRY

An object can disappear in poetry at the whim of thought and does not have to move *out* of the space. In dance an object disappears only as a result of motion *through* space<sup>8</sup>.

In poetry, *inner* meanings evoke *internal* images. In dance, *external* images evoke *internal* (qualities of) motion. Space was peripheral in poetry and its creation was not poetry's intent, it arouse *passively* to house the images suggested by the *words*. In dance, space is *actively* created, in response to the inwardly arising urge to *move*. In that dance creates and defines space, it "explains" an aspect of poetry that was not called into question within poetry: the subject of dance includes space itself, not only the images in space.

## > DANCE VERSUS MUSIC

In music, time is explored through time. In dance, space is explored through time. Within music we sense the presence of a force that figuratively *moves* sound from one moment into the next. It is

an inner, space-less, pulse that nonetheless throbs and pushes like the pulse in our arteries. It foreshadows the actual movement of limbs, but awaits the offer of space, which is created by dance, to become actualized.

Dance should be self-sufficient in terms of pure motion, and only when lacking in this regard tends to rely on the addition of a plot borrowed from theatre or an accompaniment borrowed from music. We discuss the relation of dance and music further in chapter fourteen.

### > DANCE VERSUS THE UPCOMING TEMPORAL ARTS

When a character in theatre goes off stage we assume the continuation of the character's existence until such time as we see h'er again on stage. S'he continues to exist in the artistic time of the work though not currently in the part of the artistic space visible to us. Space is "wide" enough to enclose h'er beyond the portion of that space that we can see. In dance, the dancer is both an artistic presence in the artistic reality and a person in the everyday who *acts* as the dancer. Compared with theatre, we do not as strongly attribute a soul or psyche to h'er; it is not a vital question whether s'he, as dancer, continues to exist when no longer visible on stage.

In theatre, we vaguely assume that the king's throne from the previous scene continues to exist in the throne room though we are now in a tavern in the new scene. However this is a weakened form of persistence of being because there is also the constant presence of the same space of the stage superimposed upon both locations. By literature, we are more at being *lifted* in a much *wider* space and brought to another part of it. Objects, such as those which occupy the main character's room, are assumed to continue to exist *in* the places we last saw them. The content of space as much as space itself now "houses" the character.

### > PARALLEL FEATURES FROM BOTH SIDES OF THE SPECTRUM

In music, there was no space to enter, music is already in us. *We could* enter poetry's space, but only *through* the imagination. We couldn't enter animation's space, because though it was external it was unavailable. There is a sequence on the temporal side of the spectrum from inner space (poetry), to the projection of that space outwards (animation), to being able to enter that space (dance). If we move to the end of the temporal arts we can commence another similar progression: from inner space (literature), to the outwards projection of that space (film and painting), to being able to enter that space (sculpture)<sup>9</sup>.

Though space outweighs time past the middle of the spectrum, it nevertheless benefits from being inaccessible during the first spatial art, painting. Painting's space would have gone away if we approached it too closely. Its spatial properties would be marred if we tried to physically interact with the pigments on the canvas. While living tenuously in its *own* space, it did so safely if we did not interfere. By sculpture, space is strong enough to merge its space with the everyday space, without risking the loss of its artistic reality, without the danger that its spatial properties will be marred by interaction. Interaction with dance produces a new dance with new spatial properties. Interaction with sculpture doesn't produce a new sculpture or change its spatial properties. If a viewer interacts with dance s'he becomes a participant. No such "promotion" occurs if the viewer tries to interact with a sculpture or work of architecture.

What separates the space of dance from the everyday space is what is going on *in* the work *through time*. It is more than the arbitrary separation of the stage from the audience. On the spatial side of the spectrum, there is nothing that a work of art can do actively through time to separate its space from the everyday space. Any distinction between the everyday space and the artistic space must be accomplished through the work's *spatial* properties, which were created prior to the artistic time of our experience of the work. Architecture takes the further step of withdrawing inwards from the everyday space, surrounding itself and opening up from within, so that when experiencing the work we are within *its* artistic space. It negotiates with the everyday space only at its boundaries.

## > DANCE VERSUS SCULPTURE

Rest in dance is seen as an exception to a prevailing state of motion that will resume at any time. Looking at a sculpture we may sense that the work is about to move, but it would be the exception to a relentless stillness. The choreographer, like the spatial artist, can be concerned with the arrangement of figures in space. The sculptor takes time to come up with one such arrangement, while the choreographer uses time to change the arrangement. The dancing body undergoes changes in shape, inviting a comparison with the process in time during which the sculptor molds h'er work towards its final shape. In dance there is no final form, except in the trivial sense that there is some form to the dancer's body at the moment the work ends. The sculptor removes h'erself from the work when it is completed. The dancer must be with the work whenever the work is to exist.

## > DANCE VERSUS ARCHITECTURE

Dance deals with *motion* in spite of gravity. Architecture deals with *stasis* in spite of gravity. We become performers in architecture in that our motions reveal the work's space to us.

### Notes

<sup>1</sup> How would things change if the spotlight only lit up portions of the stage not then currently occupied by the moving dancer. Space would be at most a passive medium, the indiscriminated presence of a stage floor. It requires content to direct our attention to space. If the content is stable, we begin to be aware of the spatial relationships between its parts. If the content is in motion, as in dance, we become aware of the extension and connectivity of space itself. We should note that objects such as scenery, are ancillary to dance, not part of its fundamental spatial or temporal condition.

<sup>2</sup> If there is more than one dancer, the analogy with the cloth can still hold, although the situation is more like the fitting of a sheet to a bed. It is easier when there are more people are spreading the sheet. The sheet, being the space between the dancers, is changed by the mutual actions of the dancers. Another useful image is that of a balloon which when uninflated does not resembles the form it will have when inflated. We may never see the inflated form, though that form is latent in space. Time must happen to the system for the form to be appreciated. Space grows' out of the energy released in time.

<sup>3</sup> "Let us consider the ... feeling of grace. At first it is only the perception of a certain ease, a certain facility in the outward movements. And as those movements are easy which prepare the way for others, we are led to find a superior ease in the movements which can be foreseen, in the present attitudes in which future attitudes are pointed out and, as it were, prefigured. If jerky movements are wanting in grace, the reason is that each of them is self-sufficient and does not announce those which are to follow. If curves are more graceful than broken lines, the reason is that, while a curved line changes its direction at every moment, every new direction is indicated in the preceding one. Thus the perception of

ease in motion passes over into the pleasure of mastering the flow of time and of holding the future in the present. A third element comes in when the graceful movements submit to a rhythm and are accompanied by music. For the rhythm and measure, by allowing us to foresee to a still greater extent the movements of the dancer, make us believe that we now control them. As we guess almost the exact attitude which the dancer is going to take, he seems to obey us when he really takes it: the regularity of the rhythm establishes a kind of communication between him and us, and the periodic returns of the measure are like so many invisible threads by means of which we set in motion this imaginary puppet. Indeed, if it stops for an instant, our hand in its impatience cannot refrain from making a movement, as though to push it, as though to replace it in the midst of this movement, the rhythm of which has taken complete possession of our thought and will. Thus a kind of physical sympathy enters into the feeling of grace." Henri Bergson, "Time and Free Will, An Essay on the Immediate Data of Consciousness" NY, The Macmillan Co. 1910.

<sup>4</sup> I have ironically appropriated terms from space to highlight just how much freedom to manipulate is gained in the absence of space.

<sup>5</sup> The only part of space not available into which a given dancer can move is the space occupied by one of the other dancers. However, with the passage of time, these spaces may become available again. As the number of dancers increases, their mobility decreases in proportion to how much space is occupied by other dancers.

<sup>6</sup> A different possibility would result if instead of the trail remaining a certain duration of time before fading, it always had a fixed length regardless of the speed of the generating object. It is also interesting to conjecture what would happen to the spatial art of painting, if the pigment used by the painter faded and vanished a certain number of moments after it was applied to the canvas? We would see form emerging then disappearing. The artist could never complete the work. Only if s/he worked very fast, and the fading rate were slow enough, the work could be finished, but it would only last a short while. If the amount of time it took the paint to fade shrank to just an instant, then at only at the tip of the brush would we see anything. This tip would be like the moving dancer. If the paint did not last even an instant, if it vanished before it was visible, there would still be motion, but no outward sign of it in space, as is the case with music. When we get to theatre we shall find that the action in it also leaves a trail behind it, not a visible trail of motion through space, but an invisible trail of consequences absorbed into the character of the participants.

<sup>7</sup> An interesting alternative would be to have the audience move along with the dancers into new places. The fixed space of the stage can still function as a "proxy" for unlimited space if we think of the stage as a lens of the "fish eye" type. The further a dancer's motion moves away from the center, the more we can think of it as being bent inwards towards the center.

<sup>8</sup> The dancer can also disappear in a way more analogous to poetry by turning off the lights and extinguishing space in time.

<sup>9</sup> In terms of the actions of the creator of animation or painting, we can also think of it as an *inward* projection from the everyday space into the inaccessible space.