

Towards Y3K: Dance's Digital Divide

By Mark Coniglio

Humans, being funny creatures, like to sum up the past and look forward into the future whenever they reach an anniversary that ends in a zero. Their desire to profoundly mark such an anniversary seems to be directly proportional to the number of zeroes available. So, as I sit down in January 2000, feeling optimistically unscathed by Y2K, I am drawn to consider what the new millennium might hold for my particular area of interest, the field of dance and technology.

The first question that comes to mind is a general one. Will dance, whether it is technologically enhanced or not, survive through the next hundred years? It is clear that the Internet and its derivatives will become the primary method by which creative content will be distributed to audiences in the coming years. Can live performance remain meaningful in such a world? This question is especially keen for dance since, of all the art forms, its visceral nature would seem completely at odds with a medium that separates the bodies of the audience from the bodies of the performers. Those of us in the field have seen experiments on the World Wide Web where choreographers have explored the idea of using the net to allow viewers an experience of dance performances. The simplest of these provide streaming digital video documentation of a formerly live performance. Some have taken this idea a step further by providing the user simple choices of viewpoint or the ability to "compose" the performance by jumping from one segment of the dance to another. Still more experimental approaches use interactive techniques to allow the computer user to control more detailed aspects of a representational or abstracted digital performer's movement using mouse or keyboard. Yet, none of these experiences seem satisfying as dance primarily because they do not provide the viewer with the corporeal experience that one feels when one watches a living body move artfully through space. What is missing is the energy that is the human body.

When dancers perform we see beautiful bodies that sweat and breath hard as they perform complex, difficult, and even dangerous movements. Athletes and dancers show us the human body at its most exquisite by seeking the boundaries of its capability. Both take chances with their bodies as they explore those limits. What makes dance different from sport is the fact that these movements are aesthetically pleasing and may generate mood or narrative – a sublime combination of beauty and risk. It is this combination that is missing when viewing dance through what I will term here "flat media," meaning two-dimensional representations on television or computer screens. Those of us who create dance know too well how the most common documentation medium, videotape, robs a performance of its vitality with its lack of detail, single perspective, and two-dimensional representation. And while the personal computer may allow the chance of interaction between a replicated performer and live viewer, current web-based representations of dance suffer from even more limiting bandwidth constrictions than videotape. Admittedly new technologies will improve the viewer's experience as time goes on, but one is drawn

to ask the question, what amount of bandwidth is required to fully represent a virtuosic dancer's body? Will flat media alone ever be able to communicate the physicality and daring of a live performance? There is also the reverse query: will the experience of watching such a virtuosic performance remain compelling enough to bring audiences to the theater?

There is abundant evidence that choreographers sense, consciously or not, that they are going to have to seek new extremes to keep dance vital in a world abundant with home destined media. One widespread trend, which may have begun with Elizabeth Streb, consists of what I might call "extreme" choreography – dances whose most prominent feature is their intense physicality. (I choose the word "extreme" here because it relates closely to the adjective used in the United States to describe a variety of sporting activities whose common denominator is their high risk to the athlete.) Streb's work explores the limits of what the human body can do within the constraints of gravity and time while simultaneously providing a gripping theatrical experience. This trend towards physical risk continues in performances like "Villa Villa" by the Argentinean group De La Guarda, where dancers suspended from the ceiling and walls high above the audiences' heads as they perform. They create a work that combines the excitement of circus, the aesthetics of dance and the social experience of a rave. Then there is an artist like Stelarc, who places the body in a performance of corporeal assault, where 60-volt electrical pulses, triggered by participants on the Internet, cause his body to writhe under electronic control. At first his performance might appear to follow the thinking of the examples above in the guise of a modern sideshow attraction. He has instead gone much further by presenting a body that has already succumbed to the power of the Internet. What these works share is a sheer viscerality that allows a potent experience only in the context of their live performance. They make a spectacle that is compelling if only because it is so far beyond what the audience can experience at home.

What has this to do with dance and technology? Everything, I think. Those creating digital dance are considering the same technologically driven world as the choreographers listed above. Because of their special field of interest, they may possess an especially keen picture of how home destined media combined with advanced imaging technologies are going to shape the audience's expectations of the theatrical experience. These creators understand that dance needs to speak in a world where wildly choreographed, computer enhanced fight-scenes found in a film like "The Matrix" will be the audience's common frame of reference as they enter the theater (if in fact they enter at all.) And so these those combining dance and technology have responded by falling into one of two broadly defined camps when making their work. One attempts to use "extreme media", if you will, to create a more spectacular live experience that in many ways parallels the trend towards extreme dance described above, while the other eschews live performance altogether and instead embraces flat media as a new and unexplored site for dance performance.

Members of the former group (of which I am one) will tell you that they use digital media in their performances because they are the right tool for the job. And I would agree, but only by asserting that the reason tools like video, interactivity, and telepresence are important is because they help to keep dance vital in a world where mainstream broadcast media is the most widely experienced channel of aesthetic (albeit popular) expression. Television is powerful because it combines imagery, sound, and editing into one stream of information that flows into the comfort of your home. Through the use of video, dance creators gain access to all of the plastic qualities associated with film (and television) including changes of scale or perspective and the extremely capability to break linear time with editing. With telepresence performers appear almost supernaturally from afar, much as they do on the nightly news. Finally, with interactivity the performers are capable of in-the-moment improvisations that add energy and surprise to the live experience. Using such tools with dance allow artists to create layers of meaning with a density that is appropriate and necessary in the media intense world that we live – it is the vernacular of our time. The extreme dances described previously appropriate risk in an attempt compete with the energy of television and film. Those using technology in live dance attempt to create the same energy through the addition of media.

The problem for those following such a line of inquiry will be to insure that they do not lose sight of what makes dance dance. Now, I am not talking about the growing pains of learning how to use the technology artfully – I have witnessed dance works that incorporated video, only to have the dancers figuratively eaten alive by the imagery and editing. You may have seen interactive works that forced the dancers into a movement vocabulary lacking any subtlety due to the limitations of the sensory technology in use. (Guilty as charged!) The real difficulty is to create technologically intensive works in which the onstage media is informed and guided by the energy of the body. The media must also present it's own sense of risk, frailty, and simple physical power. In a manner of speaking it must become a body too, equal in energy to the physical body of the dancer. Let me use two examples from my own work to explain what I mean by this.

One recent piece features a section where a dancer performs with a miniature video camera and wireless transmitter held in one hand. As she dances in front of us, she trains the camera on her face and other parts of her body, and these images are projected in large scale behind her using a video projector. We not only see her en toto dancing before us but we also see tiny, particular gestures magnified to the size of her entire body, or a rush of blurred imagery as she tumbles across the floor. Because this projection is directly linked to a living body, it reflects, amplifies and compliments it. The projected image becomes a body because it is an inseparably linked extension of the performer's body. Part of what makes this relationship work is that there is no breaking of linear time through editing of the video imagery. The audience feels comfortable switching their gaze between dancer and projection because they know that no independent information will be presented on the video image. Yet, this combination intensifies the viewer's

experience of the dance because of the simultaneous multiple perspectives that it provides.

Another example comes from a work-in-progress I created two years ago in which three, two-meter long fluorescent tubes, suspended from computer controlled motors, move in response to the performer's gestures. The dancer and lights move intimately together, her soft movement contradicted by harsh fluorescent light. A similar contrast is developed as the tender relationship between the human body and the machine is superimposed with the feeling of danger as the performer moves through and around the fragile glass tubes. But the reason that this dance works at all is because the technology feels as if it has a body, both through its physical presence and because it moves in reaction to a living being. The physical limitations of both the dancer and the light tubes (precisely those not imposed upon video) are what automatically keep them on par with each other and allow them to truly perform a duet in the traditional sense of that word.

If one can make a media element function as a body, then its incorporation into a dance work becomes no more than a choreographic problem. If we view each dancer and media element as equal performers, we are able to plan entrances and exits, unisons and counterpoint between them. One only needs to add the caveat that, depending on content, an element like video may be worth two, three or even a hundred dancers performing in unison. An example of such a choreographic approach can be taken from the examples above. At certain times in the dance with the miniature camera, the dancer covers the lens of the camera with her fingers. The video projection "goes into the wings" by going dark and the audience's attention is directed to the dancer. In the other work, the dancer and tubes both take short solos where one moves while the other is still. By using a choreographic approach when composing media intensive dances, choreographers place themselves in familiar and rich territory. But, more importantly, by modeling each technological presence on the living body, we stay closer to the bone of dance itself.

On the other side of the digital divide we have the group working to bring dance to flat media. They have embraced (or at least acknowledged) the fact that at least some segment of new dance works, if not all, will ultimately be distributed on the World Wide Web or its progeny. The challenge of bringing the risk taking and physicality of dance to flat media seems much greater than the reverse, though they have the advantage of the excitement generated by stomping through fresh territory. Can we feel the emotional linkage we find in a live dance performance if the resolution of the screen is too coarse to allow us to see the subtle tensing of the dancer's muscles when she holds a difficult pose? Moreover, will the sweat and physical exertion matter if the dancer is performing inside of your computer? These questions presuppose a traditionally minded transference of dance to flat media that is clearly not the answer. Choreographers working on the web understand that dance will have to change its form to work within the current context of technological development. That is why we have seen works on the web in which the entire notion of the dance is abstracted, giving not a representation of the body per se but

some kind of graphic entity that moves in a way that might be construed to be dancer-like. But without the sense of the body's physical energy, these experiments seem to be more inventive computer animation than dance. Flat media dances need to pass a kind of choreographic Turing Test: is the feeling generated by the flat media experience before you as powerful or moving as one you have previously experienced during a live dance performance?

There are those who could argue that the entire premise of the preceding paragraph is reactionary, and of course they would be correct. As an audience member, I am still in love with the experiences that I have when viewing live dance, and I look for the same in flat media works. Assuming for the moment that such a desire is valid, I would like to propose that models of how we can bring energy of the body to the computer screen can be found now in an unlikely setting: interactive computer gaming.

The inspiration for this statement comes from reading about the recent work of choreographer Amanda Steggell, who has created an installation based on the popular game Tomb Raider. In the work the movements of a live dancer, dressed as the game's protagonist Lara Croft, are dictated by twelve prerecorded voice commands actuated by buttons on a central console. (The movements were determined by analyzing all the movements made by the character in the game.) Each time a viewer presses a button, the corresponding voice instruction (i.e., "Jump") is played back and the live dancer performs that movement.

One of the underlying insights of this marvelous appropriation of popular technological culture is that Lara Croft is a dancer performing choreography. As I reflect on this I see several important characteristics in interactive "shoot 'em up" games that should be considered by those creating dance for flat media. There is a sense of liveness because, though Croft's world is predetermined, her actions within it are not. There is risk because Croft might be attacked at any moment and could be killed. There is progression through a plot as the character advances through the game, however thin this plot may be. There is the ability to alter the viewer's perspective at any time, to seek out what is important (or more to the point, dangerous) in the world around her. Perhaps the most important thing to realize about this model is that most of the energy comes from the fact that, since the player of the game dictates Croft's movement, he or she is Croft. The viewer is the actor/dancer in this world. For flat media dances to work the viewers must at some core level become performers.

What is not clear is how these characteristics can be transferred to a dance work that lacks the violent conflict found in these types of games. Can an aesthetically potent experience be generated without tapping into the animal instinct to survive? A useful example to consider is the game *Myst*. By allowing the user to explore a lusciously rendered world by navigating through a series of puzzles, it is not so much about survival as it is about solving a narrative mystery. While *Myst* might not be an artwork, it is closer

to being so than Tomb Raider because part of experiencing fine art includes the delight of divining the mystery of the creator's world. What is lacking in Myst, from the dance point of view, is the bodily energy that one finds in Tomb Raider. What seems clear is that a flat media dance will need to incorporate elements typified by both of these games as well as an insightful aesthetic message to be successful as a work of art.

Beyond their core differences in approach and the problems that they need to solve to remain true to dance, both camps share the attribute that they will invigorate the field of dance in the next millennium through their experimental approaches. To think that non-technologically enhanced dance will disappear completely is to be shortsighted. In his book "The Age of Spiritual Machines", author Ray Kurzweill correctly points out that history has shown that new technologies seek new niches, they don't eradicate something that still serves a purpose. But the fact remains that over time our culture will continue to become more media intensive, and that the content carried by those media will be delivered to the home and not to the theater. To stay vital in the theater and at home in such a culture requires that dance creators include media and technology as an essential and integrated part of their expressive voice, but that they must do so without losing dance's most important quality, the energy of the human body.