Twyla Tharp's *Making Television Dance* (1977) and the Technologized Dancing Body
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Abstract:
This article looks at the technologized dancing body on television, particularly in videodance. It asks and begins to answer the question: What were emerging technologies of the late twentieth century able to do with, to, or for the dancing body that was not possible previously, and which built the foundation for the ways today's digital technologies interface with the dancing body? In beginning to answer this question, the article closely examines Twyla Tharp's *Making Television Dance* (1977) and argues that Tharp's piece condenses and summarizes the experiments of videodance during the late twentieth century, highlighting its foundational shift from using technology to exclusively do things *to* the body or extract things *from* it, to instead using the body to interface with and demonstrate the capabilities of a new technology—triggering the machine's capabilities using the body's cues. In other words, videodance reframes the body as a (technologized) tool. Ultimately, this article reveals that late 1960s and 1970s videodance was a transitional interstice between two more enduring forms of screendance: celluloid dance film and digital dance data.

The technologized dancing body has been a topic of much interest, experimentation, and discussion during the first two decades of the twenty-first century.[1] Digital sensors in particular have facilitated the transformation of bodily movement into data, which can then be manipulated to produce many types of outputs, audiovisual and otherwise. By interfacing with data-collecting technologies in this way, the dancing body itself arguably functions as a kind of technology. Hilary Bergen has recently argued that such a technologized dancing body appears at *both* the dawning of the twenty-first century *and* the dawning of the twentieth. Though they are products of vastly different historical moments, governed by analog versus digital media, for Bergen, dancing bodies at the turn of both centuries become cyborg-like through their technologization.[2] In this article, I am interested in the transitional period between these two modes, just before the dominant twentieth century medium of celluloid film gives way to the dominant twenty-first century medium of digital data. During this transitional period, which extended from the mid-1960s to the late 1990s, some choreographers experimented with early sensors and mixing boards, as in Merce Cunningham's 1965 *Variations V*, which used both capacitance devices designed by Robert Moog and photocells designed by Bell Laboratories engineer Billy Klüver to sense dancers' bodies and create sonic outputs. More often, choreographers experimented with newly emergent audiovisual synthesizers. Indeed, this was also the period during which there was a (relatively brief) explosion of interest in video art, including videodance—which was viewed not on the big silver screen, but on television.

For me, the most compelling question about this period of televisual experimentation and transition toward the digital is: What were emerging technologies of the late twentieth century able to do with, to, or for the (technologized) dancing body that was not possible previously, and which built the foundation for the ways today's digital technologies interface with the dancing body? Of course, dance had already been "on television" for years. In the United States, dance was a common component of variety (often nicknamed "vaudeo" by combining vaudeville + video) programming from the late 1940s onward. But while individual dancers gained experience modifying their chorography from its proscenium stage origins for the television stage and its multiple cameras, dances designed specifically

for or *with* television were rare until at least the 1960s. By this point, film had already proven itself capable of interacting with the dancing body in innovative ways. Epitomizing the earlier celluloid era, Maya Deren's *A Study in Choreography for Camera* (1945) crucially demonstrated the ways that film as a medium can extend the capabilities of the human body through techniques such as editing (especially the most basic element of editing: the cut) and recording speed (which can produce fast motion and slow motion). However, film tends to merely record an image of the body. While this image can be manipulated, as Deren demonstrates, there are limits on both the level of detail and type of information recorded, and on how much that information can be manipulated. Film also holds temporal limitations; its image cannot be changed "live," in real time. The emergence of video, based in magnetic tape read by electronic scanners (rather than strips of emulsified celluloid projected with light), expanded the range of possible corporeal manipulations both visually and temporally. In this article, I look to modern dance choreographer Twyla Tharp's 1977 hour-long television special *Making Television Dance*, created at the WNET "Television Laboratory" in New York City, to begin to answer my opening question in greater detail.

Through *Making Television Dance*, I argue that dance experiments with analog television, particularly in the 1960s and 70s, represented a crucial chapter in the history of the increasingly technologized moving body. Though rarely discussed in either television scholarship or dance scholarship, *Making Television Dance* was explicitly interested in uncovering what the marriage of dance and television (as distinct from film) made possible formally and technologically. The special crystalizes ways of explicitly using the body as a tool that can control and change the visual outputs that result from its data inputs—much in the same way Cunningham's *Variations V* understood the body as controlling possible sonic outputs a decade prior, but also in the same way that motion capture technology would produce more complex outputs two decades later. It thus exemplifies this moment of possibility and televisual experimentation, innovating new ways to think the body that were foundational to later experiments with digital technologies. It also highlights the role of public broadcast television in supporting and enabling much of the cutting-edge work in the realm of U.S.-based videodance. Funded by grants from the Rockefeller Foundation, the National Endowment for the Arts, and sometimes other state or national sources, major public television stations such as KQED in San Francisco, WNET in New York City, and WGBH in Boston, developed laboratories and workshops where artists could access cutting-edge television technology and create what the WNET TV Lab called "experimental television," i.e. video art. *Making Television Dance*, additionally funded by the New York State Council of the Arts & the Corporation for Public Broadcasting, was one of many projects commissioned by the TV Lab under this charge.

Thus, Twyla Tharp was not the only artist engaging the relationship between television (or video) and the dancing body during this period. In a 2021 videodance retrospective (offered via streaming, due to the COVID-19 pandemic), SFMOMA highlighted three representative works: *Assemblage* (1968), created by Merce Cunningham and former dancer/television producer Richard Moore for KQED San Francisco; Part I of *Merce by Merce by Paik* (1975-1976), created at the WNET New York Television Lab by Merce Cunningham and video artist Charles Atlas; and *Fractured Variations / Visual Shuffle* (1986), created by video artist John Sanborn, choreographer Charles Moulton, and Mary Perillo for the Minneapolis-St. Paul KTCA series *Alive from Off Center*.[3] All were made possible by the resources and willing engineers of local public television studios. Notably, while not credited as an author on any of these works, video artist Nam June Paik either assisted with or inspired all of them. Paik is often hailed as the "father of video art," in part because he developed some of the first video synthesizers in the 1960s with engineer Shuya Abe (usually at public television stations). These synthesizers became the default technologies of both video art throughout the 1970s–80s and music video in the 1980s–90s. Though not a dancer or choreographer himself, Paik often centered dance in his work and frequently collaborated with Merce Cunningham (Paik contributed live video manipulations to

Variations V). His highly influential *Global Groove* (1973), created in collaboration with WNET lead engineer John Godfrey, used both modern dance and traditional Korean dance as part of its vision of a televisual future. He also collaborated with fellow video artist Shigeko Kubota to create Part II of *Merce by Merce by Paik* (1978), which further digs into the relationships between dance, time, movement, and electronic art. Paik and Cunningham are thus the two most prominent figures in the 1970s videodance scene, each having created multiple works together and in collaboration with others.

As is well-known, Cunningham went on to experiment with digital technologies, including early motion capture, later in his career. He thus may at first seem like the throughline whose works from 1965–1999 might best demonstrate the slow transition from the dancing body merely filmed to the dancing body as a fully technologized data controller. Broadly speaking, this is true, but it is precisely because Cunningham's experimentation is spread out across so many works that it is difficult to pinpoint individual developments. For example, his first forays into videodance experimentation, "A Video Event" (1974) for *Camera Three* with WCBS director Merrill Broadway and *Westbeth* (1975) with Charles Atlas, only implicitly engage with questions regarding video as a medium or technology. While all of the documentation on *Westbeth* describes it as comprising six sections, each addressing a fundamental question about video,[4] the questions and their interrogation are not particularly apparent in the video work itself, as it lacks narration and/or intertitles naming them. Tharp, on the other hand, experimented with emergent technologies far more rarely. As such, *Making Television Dance* consolidates many of the key concepts being interrogated by videodance throughout the period and makes them explicit through both her narration and onscreen text.

Most previous writers on videodance have been primarily interested in the unique dance artistry that can result from the choreographed body and a choreographed camera.[5] But some have more systematically conceptualized the key ways in which electronic media have intersected with and affected dance.[6] Vera Maletic, writing in 1987, outlines the ways that "spatial, temporal, and qualitative components of movement and dance, and of the media technology are correlated and… interdependent."[7] As one might expect, the spatial elements have to do with the size and vector of a corporeal movement as well as the camera distance, angles, and movements, while the temporal aspect has to do with shot duration and movement phrasing. The "qualitative" element introduces the range of special effects that video artists have at their disposal, which perhaps do the most to distinguish the "electronic" body from the live body. Though this classification seems simple and intuitive—spatial, temporal, qualitative—it sets up an implied equivalence between the body and the camera as technologies interacting, which is the framework through which both Tharp and I develop our understandings of videodance.

My focus here tracks the ways in which videodance, as exemplified by *Making Television Dance*, often prioritized technological possibility over artistry per se. This approach, across the works made at the TV Lab and even beyond it, was very much driven by the mission of the Lab itself. In the words of TV Lab Director David Loxton during a 1973 interview with writer-artist Jonathan Price, "The Lab is supposed to be doing a totality of experimentation, and an analysis of what television is now, and hopefully, through some of the things we do, of what television could become. We do a lot of video art because I feel television should have its unique grammar and vocabulary of expression. So in letting an artist explore the possibilities of television, we're hoping that out of that will come a much broader understanding of what television can be."[8] In line with this mission, Tharp works with bourgeoning director Don Mischer to explore a spectrum of bodily and/or technological capabilities in *Making Television Dance*; because of her own expertise in dance, the more familiar piece of the equation for her is the body, so she uses the body as a vehicle to experiment with video technology. Indeed, in the introduction she insists, "I wanted to make something that would be at least as much television as it was dance." Many of the abilities she highlights during the work, such as speed and repetition, are shared by both the human body and electronic video technology. The difference between the two is one of

degree, so the video intervention allows the body to exceed human limits in each category. But at the same time, the dancing body seems to be as active an agent in the process as the video synthesizers used in the Lab, or perhaps even more so; as the title itself implies, it is the body actively *making* television dance rather than merely "Dancing with TV." This word choice is the first of many ways that Tharp insistently highlights the *labor* of the dancing body, even as it is mediated and technologized—it is worth noting that critics today often highlight the lost sense of labor in today's technologized dancing bodies.

Over the course of her six-month residence at the TV Lab, Tharp developed "20 minutes of original dance for television;" editor Aviva Slesin then wove in pieces of the 60 hours of creative process footage that documentarian Joel Gold had recorded on half-inch black-and-white tape.[9] In its construction, the program thus blends the grammars of documentary and video art; though it is largely composed of Gold's "behind-the-scenes" footage of in-studio rehearsals, backstage preparations, and video editing sessions, these scenes blend seamlessly into the edited "final" videodance product with freeze-frames, multiplied images, and so forth. The hour is structured as a series of dances. After an introductory segment that multiplies a single dancer by 8 different cameras to perform every role in a "square dance," the program offers four "études," or studies, on "work" titled "Speed," "Repetition," "Focus," and "Retrograde." The program then includes a brief rehearsal duet by Tharp and Mikhail Baryshnikov, "One For My Baby," (part of a larger 1976 work called *Once More, Frank*).[10] The remainder of the show consists of the rehearsal and performance process for *Country Dances* (1976), ending with a brief solo finale where Tharp meditates on "borderlines." Perhaps surprisingly, Tharp chooses to take advantage of relatively few of the televisual manipulations offered by the synthesizers at the TV Lab; though we see a glimpse of the additional potentialities in the introductory footage, the études and other dance material utilize only a handful of the less intrusive effects. *Making Television Dance*'s resultant videodancing body is ultimately quite similar to a flesh-and-blood body, technologized but not always distinguishable from its unenhanced source body. This choice again seems to highlight the "work" undertaken by the body, refusing to obscure the physical labor of dance with too many electronic bells and whistles.

The most instructive portion of the work for understanding the body as technologized, even a technology itself, are the four études (studies). Importantly, the framing of these four segments as *études* echoes both the classical musical form (imported into classical ballet) of the étude, and the similar framing of Maya Deren's aforementioned *A Study in Choreography for Camera*. In all cases, the goal is to test limits, identify and demonstrate the most salient or generative features of the medium, and provide a model for others to emulate or practice in order to develop the concomitant skills for expression in said medium. While Tharp does attempt to emphasize this need for a (video)dance artist to practice through the use of site-specificity, each of her carefully chosen New York dance studios appear relatively alike in the video itself. Though she clearly articulates the meaning they carry for her (especially with regard to *work*), little of that meaning translates in the image. Instead, these interchangeable studio spaces fade into the background as the video asks us to focus on—*study*—these electronically enhanced dancing bodies.

The first étude, "Speed," theoretically engages an aspect of movement that film had long manipulated prior to the invention of the video synthesizer, as demonstrated by Talley Beatty's mesmerizing turns in *A Study in Choreography for Camera*. However, "Speed," danced by Shelley Washington, also demonstrates video's ability to multiply the body.[11] The segment includes two versions of Washington's body dancing simultaneously: the sped-up and the slowed-down. Each moves—or, *works*—in partial overlap with the other, meeting in moments of pause and then separating again. Washington performs a series of jumps and turns; the choreography calls for little traveling but instead emphasizes the shift between levels (up in the air, standing, low to the ground). This allows the viewer to more clearly distinguish between the versions of her body, because they are close together

yet visually separated into the higher and lower planes. Though Tharp states in voiceover that "video technology was called upon to expand the problem of each étude," the electronic interventions in this case only rarely speed up or slow down Washington's body past the range of human ability. One can only be absolutely certain of video manipulation toward the end of the sequence, when she freezes mid-jump.

Image 1: Shelley Washington performs the "Speed" étude, and the video synthesizer freezes one version of her mid-jump.

Otherwise, it is difficult to tell whether we are seeing Washington's "natural" or perhaps "unenhanced" body moving, or an electronically altered version of her. In a sense, then, the body inscribes a set of instructions in this étude, providing "slow" or "fast" sequences for the video synthesizers to enhance by making them even slower or faster.

"Repetition," danced by Tom Rawe, is study of endurance. More clearly highlighting the dancer's labor this time, Tharp introduces the segment with the statement, "Tom Rawe understands work." She goes on to explain her intentions for the piece: "It is an experiment. Sometimes I want to find physical boundaries exactly the way an athlete or scientist wants to explore what is physically possible. How high can somebody jump? How long can they go? How fast is humanly possible?" While this last question in

particular may seem to more properly belong to the previous étude on speed, taken together with the other questions it helps to explain dance's need for repetition in the form of training, practice, and rehearsals. Only through continual repetition can we as humans build enough strength and skill to test the limits of our bodies. Thus, the electronic multiplications of Rawe in this study do not perform the same choreography at different paces, but rather each iteration of him 'gets stuck' in a repeated loop of a single, particularly difficult movement while another moves on to perform the rest of the variation. One Rawe, for example, repeatedly performs 'clap' pushups. It is unclear whether "live" Rawe did the extra pushups himself or whether the video copied them for him.
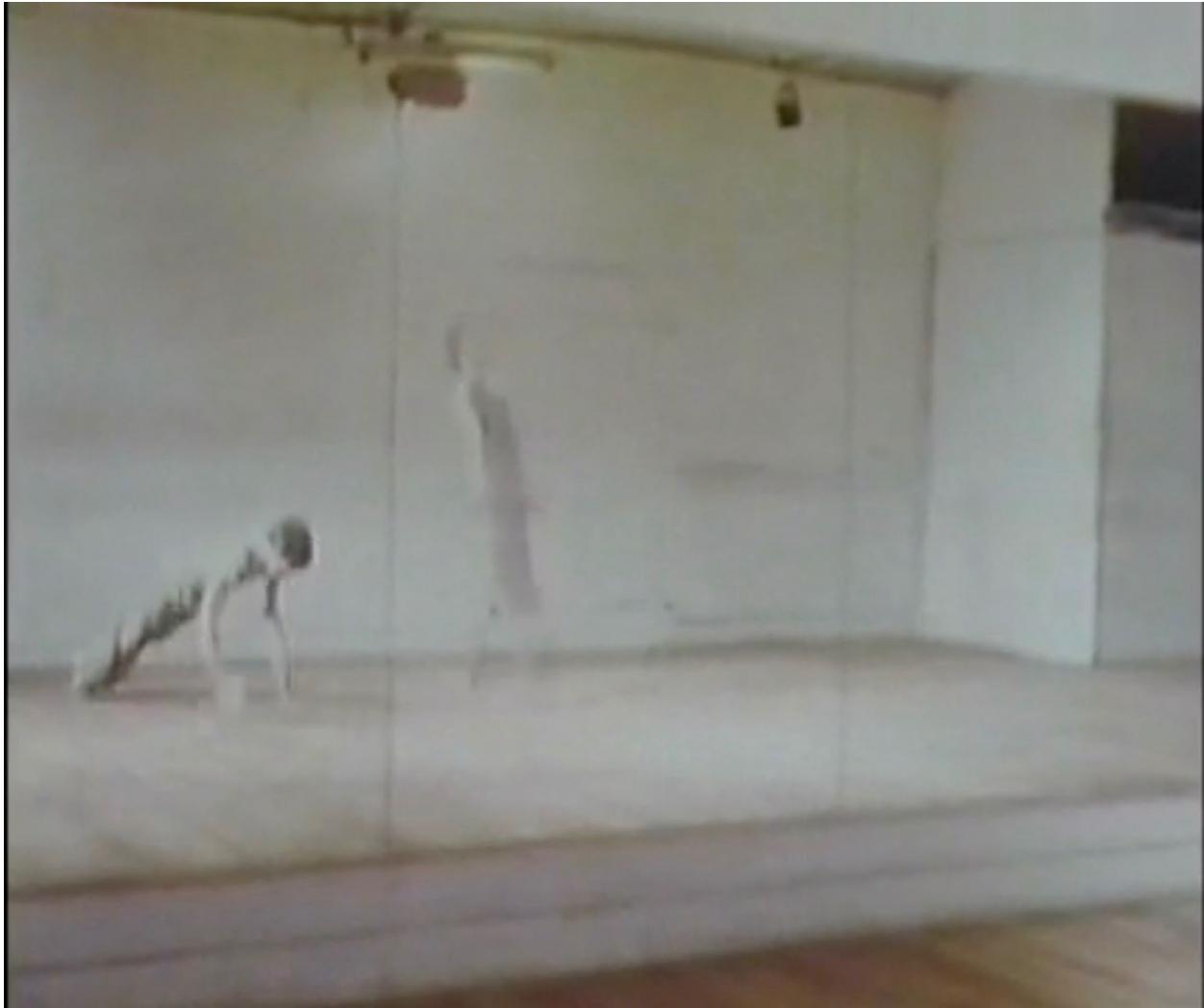

Image 2: Tom Rawe performs "Repetition:" one Rawe does clap pushups while another, fainter Rawe, remains upright.

Similarly to Washington's ambiguously mediated body in the previous étude, this leads us to ask: which technology is at "work" here? Is it muscles or electronics or both?

The third étude, "Focus," is performed by Jennifer Way, who Tharp describes as possessing "precise and clear technique." In describing the governing mechanism for this segment, Tharp reveals the extent to which each étude title is designed to be a play on both the body's and the camera's capabilities—in this case, "focus" has a distinct meaning in each context. At the level of the dancing

body, focus refers to attentiveness and precision in one's performance (also drawing the eye of a viewer and thus their "focus" as well), but at the level of the camera, it refers to visual clarity (as opposed to fuzziness) and framing. More clearly than she had in the previous two études, Tharp tells the viewer what to notice in this juxtaposition of two Jennifer Ways: "She performs one phrase twice. Both performances are seen simultaneously. In tight focus, she begins small and releases her movement as the camera pulls back. The other rendition commences very large, a performance designed to project to a distant camera, then recede as the camera moves in." Thus, while the basic steps are the same, Way executes them differently in the two performances, flipping which she keeps small for a tight-focused camera and which she opens up for a looser-focused camera.

Image 3: Jennifer Way performs "Focus," with one version of her doing a leg movement "small" for a camera in tight focus and the other version doing it "big" for looser focus.

For the viewer, Way's second performance is mirrored, such that the layered bodies sometimes seem to be facing—and therefore dancing with—each other, while also (in a sense) dancing with the camera. What is striking about the particularly rule-bound nature of the camera here is that the body's performance choices (doing a movement "big" versus doing it "small") directly govern the camera distance—even more so than Washington's body did in the "Speed" étude. In a way, these rules are a

very basic set of programming commands, such that the body provides the inputs and the camera provides the outputs. Put differently, the body here is a tool that calibrates the camera without actually touching it. While the camera movements and editing here are by no means unique to video, and are just as easy to execute on film, the structure of the rules mirrors the basic functionality of electrical signals.

The final étude, "Retrograde," most clearly highlights the difference between the flesh-and-blood dancing body and the technologized dancing body. The segment is danced by Christine Uchida, who Tharp describes as "genuinely graceful" and lyrical as a dancer. It explores Tharp's contention that "any movement that can be danced forwards can also, with practice, be danced backwards." In this segment, the Uchida on the left side of the screen dances a sequence of choreography normally ("forwards") and then reverses it physically; the Uchida on the right side of the screen dances it only "forwards" and then it is reversed mechanically.

Image 4: Christine Uchida performs "Retrograde," with the version of her on the left physically reversing an *arabesque promenade* and the one on the right mechanically reversing it—this is a rare moment of synchronicity.

Per Tharp's voiceover,

> The exercise was designed so that, at a certain point, the Chris on the left would meet up with the Chris on the right, and the two of them go backwards together so that one might compare physical, literal going-backward-ness with machine going-backward-ness and see how they differ. Thus seeing what is physically possible and what is physically impossible, but conceptually correct. This is the real dichotomy that I find fascinating about television: it can come closer to a conceptual rendition of movement in space than actual dancing. *You* cannot retrograde gravity. The machine *can* retrograde gravity, so that the mechanical flow of Chris going backwards is accurate, but it's physically impossible. It's right, but it's wrong.

This appears to be the first and only time in the études where a truly "impossible" human body is created, and it's hard to spot, even if you're a dancer. This is partially due to the fact that the two "reversals" occur at a slightly different pace, so it is difficult to undertake a precise 1:1 comparison. But when Tharp says the intervention of video here is "right but it's wrong," she implies that she believes in some sort of innate superiority or correctness about the flawed way that a human on Earth reverses movement, thanks to gravity. So in this moment, the body is finally just the body, an organic being affected and limited by "nature"…until one looks to the right a bit and sees the body as modified by the machine. But Tharp is careful to highlight this divide as the crux of it all; this is precisely where the dancing body becomes an "inferior" technology, but still perhaps Tharp's preferred one.

Image 5: Tharp and Mikhail Baryshnikov perform "One More for the Road;" this is a rare moment where both dancers' faces are visible in the cramped frame.

The remainder of the special largely cleaves to the more traditional kinds of screendance that other scholars have written about at length; that is, they are performances with hybrid aesthetic aspirations whose art lies more in the dance *between* the body and technology, rather than playing with the body *as* a technology. Tharp's duet with Mikhail Baryshnikov is about the intimacy that is possible with the video camera. As Tharp explains, "'One More For the Road' was intended to be very quiet and very contained. A private dance conceived more for the single viewer sitting comfortably at home than for one seated in the back (or the front) of a 4,000-seat house. A piece to be seen up close. There's nothing happening with the arms and the legs. I didn't make anything for the arms and the legs; it was made more for the void between us." In practice, the footage is cramped and the movements are hard to follow, and there is a sense that the cameraperson wasn't always sure where to move or point the camera. The intended intimacy is absent because the figures never look into the camera lens and only sometimes look at each other, perhaps because they are used to performing on a stage. Still, there is a clear sense of simple proximity if not closeness, emphasized by a relatively stationary camera and no manipulations by the synthesizer.

"Country Dances," on the other hand, is edited using a wide range of effects and as a result takes on a somewhat phantasmagorical quality.

Image 6: The dancers perform "Country Dances," with the synthesizer infinitely multiplying their bodies as they do so.

Though filmed before a live audience, and though it had been performed live both before and after the taping, the version of "Country Dances" presented in *Making Television Dance* is very different from a live performance. The technologized bodies (of those same four dancers from the études) sometimes appear as "normal," performing their *square* dance while audience members look on from its sides. But almost as often, the videodance cuts to impossible versions of these dancers—confined in a wavy cutout, infinitely multiplied on the screen, or engulfed by ghost-versions of themselves.

Tharp's solo, at the end of the piece, is seen twice—once partially on the stage with the audience, partially through the monitors backstage, and a second time in an empty *square*, which apparently required multiple takes. This second version includes several moments where one Tharp is frozen mid-air as another continues moving. She is careful to leave in footage of herself completely out of breath in between takes, reminding the viewer once again of the intensive labor involved in the dance, despite the fact that technology tends to obscure said labor. Of course, this time the viewer is not guided by Tharp's voiceover or onscreen text, so beyond the playful parallel squares of square dance

and television, the viewer is left as uncertain of the conceptual interrogations here (as in Cunningham's *Westbeth*, for example). But afterwards, the viewer is granted more behind-the-scenes access through Gold's documentary footage; Tharp and Mischer are seen playing back the footage at the Television Lab with engineers, discussing which types of effects to enact on the dancers' bodies at which points. Afterwards, there is a cut to example footage enacting what they discussed. Though we never see the fully edited finished product (perhaps it never was finished), we glimpse flickering, strobing effects, splitscreen, and a cannon of cuts. Certainly television is being made to dance here, but these are effects added on top of the dancers' performance rather than essential aspects cued by the individual bodies or their choreographies.

In these cases, bodies serve less as technologies, active partners in producing outputs, than as what the dancing body usually is: a partner in artmaking. The form of "One More for the Road" and "Country Dances" is similar to that of the experiments by Merce Cunningham, Nam June Paik, and others from the same era. Here and in many such works of videodance, the bodies seem to be minding their own business, moving or dancing along, and it's the camera that is somehow intervening and transforming the bodies. In other words, the dancing bodies are more passive and video technology is acting upon those bodies, rather than the body offering instructions or protocols for the technology to apply and follow.

Tharp's final meditation on "Borderlines," which closes out the special, performs a return to the body as a more active partner technology, and is the clearest precursor to digital sensor-based technological processes such as motion capture. This sequence, Tharp's voiceover explains, is about "the moment when something comes into being." We first see an establishing shot of Tharp wearing a leotard, in a studio space—this is the source image's "input." As her voiceover begins to explain "Borderlines," we see the output: an abstract, outlined version of Tharp against what appears to be a horizon line (presumably where the floor meets the wall). Similar to a shadow "silhouette" (which Tharp briefly mentions) but produced by an entirely different process, the outlined Tharp is so simplified and reduced that it is sometimes hard to see it as a body.

Especially because we are shown only part of her corporeal outline, this final scene verges on a mere play of undulating lines. Explaining how she envisioned this, Tharp speaks the final "line" of the piece: "As the movement continued, it would pass into another realm, and then it would simply sink out of sight and return to the single line which would then fade out and you'd be back into to black and we could go back to radio, which is where I think communication happens best anyway." The slight snark and irony of the final comment notwithstanding, Tharp here seems to ultimately be most interested in reducing electronic movement to its most basic parts—a line in "another realm," outside the one flesh-and-blood humans occupy. This is rather how early motion capture outputs looked as well, reducing complex movements to individual points and lines. Acting as a technology, her body intentionally provides the types of lines she wishes the video equipment to render, controlling the inputs until she dips below the "horizon" line as the final output before nothingness.
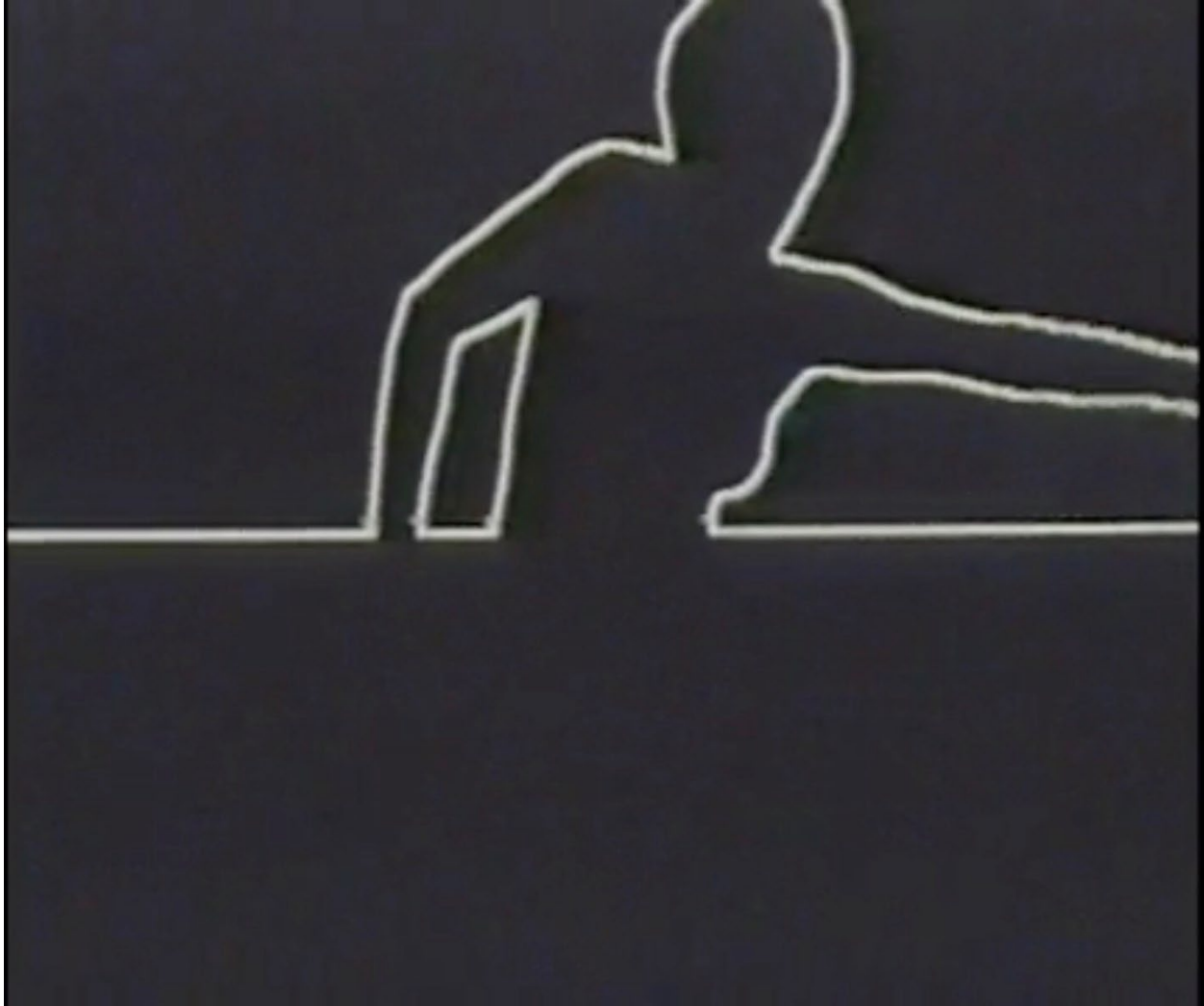
Image 7: Tharp's outline-self in "Borderlines," set against the straight horizon line into which she will soon collapse.

Making Television Dance thus condenses and summarizes the experiments of videodance during the late twentieth century, highlighting the foundational shift that shaped how we now think the body in the digital age: as itself a technology. That is, rather than using technology to exclusively do things *to* the body or extract things *from* it, or even simply change the way we see it, Tharp's études and "Borderline" experiment with using the body in its extremes (its fastest, its most enduring, its most precise, its most simplified, etc.) to interface with and demonstrate the capabilities of a new technology, to trigger the machine's capabilities using the body's cues. The result is *extending* and *enhancing* the body's existing abilities with technology rather than manipulating the body as a passive object. Tharp's 1977 experiments therefore allow us to think through not only how electronic video cameras represented a shift from celluloid film cameras with regard to their means of capturing or recording bodily movement, but also how to make sense of our bodies' relationship to more contemporary technologies. Though the labs in which dance-technology experiments are now conducted are not *television* labs, attached to public broadcast stations, they are still a place to be asking questions about agency. How does our role change as screen-adjacent technologies become increasingly interactive, immersive, and even invasive? How do we retain our humanity even as we surrender ourselves to the realm of interfaces that demand our participation? Perhaps, Tharp seems to suggest, the answer lies not

in what technology can do to us, but what we can do to technology—force it to follow our rules and stop obscuring our labor.

Biography:
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[1] See, for example, the special section on "Digital Performance" edited by Johannes Birringer in *PAJ: A Journal of Performance and Art* 24.1 (January 2002) and the collection *Transmission in motion: the technologizing of dance,* ed. Maaike Bleeker (Taylor & Francis, 2017).

[2] Hilary Bergen, *Dancing Media: The Contagious Movement of Posthuman Bodies (or Towards A Posthuman Theory of Dance)*, PhD diss. (Concordia Univ., 2022).

[3] See https://www.sfmoma.org/exhibition/dances-for-camera-merce-cunningham-nam-june-paik-john-sanborn/ for a record of SFMOMA's online exhibition "Dances for Camera: Merce Cunningham, Nam June Paik, John Sanborn."

[4] See "Westbeth," www.mercecunningham.org/media; Roger Copeland, "Cunningham, Cage, and Collage" in *Merce Cunningham: The Modernizing of Modern Dance* (Taylor & Francis, 2003), 160; and David Vaughan, "Merce Cunningham's Choreography for Camera" in *Envisioning Dance on Film and Video*, ed. Judy Mitoma et al. (Routledge, 2002), 35–36.

[5] See, for example, Sherill Dodds, *Dance on Screen: Genres and Media from Hollywood to Experimental Art* (Palgrave Macmillan, 2004); Erin Brannigan, *Dancefilm: Choreography and the Moving Image* (Oxford University Press, 2010); and Douglas Rosenberg, *Screendance: Inscribing the Ephemeral Image* (Oxford University Press, 2012).

[6] Such analyses were far more common during the early videodance era than they are today. An excellent example of this type of work is Richard Lorber, "Toward an Aesthetics of Videodance," *Arts in Society* 13.2 (Summer/Fall 1976). See also Vera Maletic, "Videodance – Technology – Attitude Shift," *Dance Research Journal* 19.2 (Winter 1987/1988).

[7] Maletic, "Videodance – Technology – Attitude Shift," 3.

[8] Jonathan Price, "An Interview With: Lab Director David Loxton," *The Television Laboratory at WNET-13 News* 1.1 (August 1973), 4.

[9] *The Television Laboratory at WNET-13 News* (Winter 1977), 7.

[10] Though the official Twyla Tharp website (www.twylatharp.org) names the televised segment "One For My Baby," Tharp refers to it during the special as "One More For the Road."

[11] Though rarely attempted and much more difficult than it is on video, films have occasionally multiplied the dancing body using mattes and optical printing processes. See, for example, the multiplication of Fred Astaire's shadow in *Swing Time*'s "Bojangles of Harlem" number (1936), and Gene Kelly's "Alter Ego Dance" with himself in *Cover Girl* (1944).