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A SURVEY OF THE STAGED CYBORG

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ABSTRACT

The development of technology to enhance the performance of the human body is motivated by the desire to go beyond the limitations of the physical form, creating new possibilities for bodily expression while also raising questions about the boundaries of the self and the impact of technology on the body and society. In this paper I will explore many of the techniques performing artists have used to merge their bodies with technology, and observe the questions asked and answered by those methods.

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A HISTORY OF THE STAGED CYBORG

The development of technology to enhance the performance of the human body is motivated by the desire to go beyond the limitations of the physical form, creating new possibilities for bodily expression while also raising questions about the boundaries of the self and the impact of technology on the body and society. As technology advances and becomes more easily intertwined with our own bodies, performance is constantly finding new ways to merge these two realms to challenge our understanding of what a body could be.

In Jennifer Parker-Starbuck's *Cyborg Theatre: Corporeal/Technological Intersections in Multimedia Performance (2011)* [1], she identifies nine entries for the intersection of the body and technology on a stage: the abject/object/subject body against the abject/object/subject technology, with a caveat that the development and pervasiveness of technology in the world today and theatre specifically mandates that on a certain innate level technology is always in the role of subject. Within this framework, Parker-Starbuck explains abject bodies and technologies as those which are “in process” or otherwise not considered to be the normal or ideal and are often cast aside. *Object* as a term identifies bodies and technologies which are “regulated and fixed from the outside in”, meaning they are not so stringently cast aside as the abject but are still not allowed any agency of their own. She uses the term subject to mean the actively participating, complete body, one which is “in communication with” technology or vice versa.

Each of these terms have their own interplay with each other, and each of their potential intersections implies a completely different ontological concept of a cyborg. For example, the

classification of a piece as falling within Abject-Body-Subject Technology would imply a culturally anomalous body actively modified and transmuted by a technology, perhaps the most science-fictional entry in the cyborg matrix, whereas a classification as Object-Body-Subject Technology implies a body which simply receives or in some cases is received by technology.

While these roles and their intersections are taxonomically interesting to understand, the interpretation of a work and the intersections of body and technology it may engage with will largely be a matter of personal interpretation and debate, and as such is not the most interesting to me to attempt to dictate or prescribe to a performance. While these frameworks are useful and I may prescribe some of the performances I discuss with my own interpreted placement within this system, I am instead more interested in exploring techniques through which we may create staged cyborgs. Some of these processes I am immediately aware of and interested in are simulation, duplication, and physical distortion. I am choosing to specify my focus on the techniques through which the cyborg can be made manifest because I believe that each of these and any other methods can generate performances within any section of the cyborg matrix that Parker-Starbuck puts forward.

Of course, the social consciousness surrounding the word “cyborg” most often and most strongly leads to an association with physical distortion, perhaps replacement metal limbs or skin, additional mechanical limbs, or super-powered enhanced senses. While our terminology and aesthetic associations may be more modern and electronic, the act of technologically modifying a performer’s body is far from new. As far back as the nineteenth century, we have examples of performing artists modulating their own bodies in whatever way they had available to them, creating what I will refer to as a “staged” or “performative” cyborg: one which is

created and utilized not necessarily for long-term bodily autonomy and augmentation and can be as temporary as a single performance and as non-invasive as a particular garment.

[Loie Fuller\[3\]](#) was an American dancer working at the turn of the 20th century, working primarily in Europe. Fuller became prominent for [two major aspects of her work\[4\]](#): First her development of new techniques and inventions of stage lighting, from novel use of underlighting to developing materials to have her costumes themselves able to glow. Secondly, her expansion on the genre of skirt dances, a style of dance which saw dancers manipulating skirts of several layers to create perpetually flowing fabric images and were popular at the time. She accomplished these variations on the skirt dance in choreography, most notably her *Serpentine Dance(1892)*, as well as in early iterations of a technological enhancement of her body. [In 1894 she patented her invention\[5\]](#) “Garment for Dancers” which utilized sturdy yet lightweight poles which the dancer could use to have an elevated level of control of movement over the fabric of the dress they were wearing.

This garment serves as a very clear example of using technology to extend the body of the performer, though perhaps a more analog example of technology than we may immediately conceive of today. This piece is important to my conception of the performative cyborg because it emphasizes that this desire to be more than our bodies is nothing new, and that rather than the technology imposing this craving upon performers, perhaps this desire to enhance our body in performance motivates the development of technology itself.

This architectural approach to the cyborg draws parallels to the work of contemporary Bauhaus artist [Oskar Schlemmer\[6\]](#), whose [work consisted of simultaneously expanding the](#)

[human form](#)[7] of the performer through architectural technology as well as a reduction of the humanness of the performer's form through costuming which aimed to abstract the dancer by masking their organic body. Such examples can be seen in pieces such as his *Pole Dance*(1927) [8] and *Triadic Ballet*(1922). In *Pole Dance*, Schlemmer has the performer dressed in an all black outfit that covers their entire body, allowing the human form to fade away and only be represented by poles attached to their body. These poles extend beyond the natural length of any performer's limbs, and interact with each other in a way that limits the dancer's movement.

In reducing the performer to just an [abstract, expanded geometry](#)[9], Schlemmer is creating an almost prototypical example of a digital performing avatar. When we represent things in virtual spaces such as the metaverse, they are as well only edges and constructed polygons as are observed in the choreography of Schlemmer's highly geometric work. It is this geometry that I believe allows it to continue to stand contemporaneously with modern cyborgian performance, as Schlemmer's stance on the use of technology was more focused on using it as a means to an end rather than the end itself. The highly angular movement and specifically geometric spatial use were the core focus of his choreography, the technologies used to accentuate these shapes in time were only tools to accomplish that focus.

[Merce Cunningham](#)[10], the American dancer and choreographer working through the mid to late twentieth century, was a pioneer of modern dance most famously known for his use of random chance games to generate his choreographic patterns. This methodology indicates some of if not the earliest work intersecting software with the human body in performance. By using these mathematically random methods (coin tossing, dice rolling, etc.) to generate consecutive steps of a choreography, Cunningham was effectively choreographing

algorithmically. One notable feature of this working method is that there was never a guarantee or even consideration of the actual performativity of dances choreographed in this way, which sometimes created sequences of steps that were incredibly difficult to execute. Speaking on his 1951 piece *Variation*, [Cunningham said\[11\]](#) “It wasn’t terribly long, but it was just impossible to do.” This bug in the algorithm, creating a choreography that cannot be properly performed, is a necessary risk in Cunningham’s process, and the glitch generated within the performer’s body is received as a welcome feature.

Throughout the 60’s and 70’s, Cunningham worked increasingly with electrical technology, using systems to have the technology and the human performers directly and autonomously interact with each other to create dynamic soundscapes. Whether having static antennae throughout the dance space to respond sonically to the presence of the dancers as in the 1965 piece *Variations V*[\[12\]](#), or having the dancers themselves integrated with technology to generate sound based on their physical location and orientation as in *TV Rerun (1972)*[\[13\]](#), these early experiments in real-time interaction between human and electronics blur the line between technology as a tool for performance and technology as an active performer itself. This work paved the way for future artists to further blend the realm of human and machine in a capacity that allows the technology not to control or be controlled, but to simply exist and cooperate in the act of creation.

[Later in his career\[14\]](#), Cunningham began utilizing computer software to help portray his choreography to his dancers. This software, DanceForms, held a vital role in the development of his pieces in two major ways. First, it allowed Cunningham to have an outside eye on the choreography through both space and time, extending these replicated forms of his enlisted

dancers into virtual spaces that themselves could be stretched through time. Second, as Cunningham developed arthritis in his later years the software allowed him to more easily share his developed choreography with his performers, acting as an invigoration of his natural form.

However, this technology was not relegated to only the rehearsal room, and these virtual choreographies made their debut in 1999 with the piece [Biped\[15\]](#). The structure of this piece had human performers dancing in a space behind a scrim on which would be projected animated versions of the choreography, allowing for a greater multiplicity of performers as well as a dynamism of space, texture, and time that would not be possible with strictly human performers. Throughout the piece, there becomes a noticeable benefit of this interplay between human and digital dancer as the chance-developed choreography led to many physically disconnected phrases. Regardless of actual difficulty this may have caused the organic dancers in performing, it clearly has an effect of halting the momentum of motion, leading to the performers taking on a physical quality of stuttering stop-and-go that is reminiscent of early machinery. Contrastingly, the virtual choreography appears in the space unchained by physical momentum, allowing for a visually fluid quality of movement. This helps to smooth the gap between live and digital performer, and though they remain still clearly distinguishable they are also made to feel that they belong in the same space and are truly and fully in relation to each other.

[Nam June Paik\[16\]](#) was a Korean-born media artist and sculptor who pioneered direct interaction between body and technology. Many of his sculptures involved adorning human performers with TV screens which would broadcast various and often changing video feeds. His 1969 collaboration with Charlotte Moorman *TV Bra for Living Sculpture* had Moorman performing the cello in front of an audience topless with miniature screens covering her breasts.

Augmenting Moorman's body in this way develops a humanization of the television screen and encourages viewers to imagine a future in which this hybridization is less of a temporary costume piece and more of a permanent modification available to anybody. This humanization and hybridization is something Paik was actively interested in, [saying about *TV Bra*\[17\]](#) "The real issue implied in Art and Technology is not to make another scientific toy, but how to humanize the technology and the electronic medium [...] we will demonstrate the human use of technology, and also stimulate viewers, not for something mean but stimulate their fantasy to look for the new, imaginative and humanistic ways of using our technology."

This was not the only process through which Paik accomplished a humanization of technology in his work. In his 1964 piece *Robot K-456*, a robot is pieced together from various disposable and disparate components to resemble a human form. The sculpture is given a loudspeaker to speak, wheels to move, and was given both breasts and a penis to help bridge a gap of understanding that this is an approximate human form. In various performances, K-456 would move out on public streets engaging with unwitting public audience members, both imagining and actively generating a future in which human and machine go about their days and lives interchangeably. Though K-456 was not an autonomous system, instead being remote controlled and only having access to speech from various recordings of speeches by JFK, passersby on the street would not have the full context of their creation and would have to confront and question whether the entity they met was "real".

This question of "real" was pushed even further in a 1980 performance by Paik and K-456 at the Whitney Museum. In the piece *First Accident of the Twenty-First Century*, K-456 was brought outside the museum and tasked with walking along the sidewalk across the street. Along

the typical opportunities for the public to experience K-456 in an unprompted way, this piece also featured an orchestrated devastation of K-456 in which it was struck by a car as it crossed the street. Paik said the piece was to help him prepare for the catastrophe of technology in the 21st century, but it undoubtedly created an emotional connection to the robot for anybody around to see the moment of impact. [Humanizing the technology of the future\[18\]](#) by having the audience be confronted with the harming of the machine, invariably creating the empathetic bond formed by any of us when we see somebody get hurt, even a stranger.

[Stelarc](#) is an Australian performance artist actively working in the space of bodily augmentation and automation. Instead of moving through a space of humanizing technology, Stelarc [aims to technologize the human form\[20\]](#), believing [its current state to be "obsolete"\[21\]](#). He has technologically extended his body both physically and digitally, through mechanical exoskeletons and digital avatars which audiences may control externally, as well as growing an additional ear on his arm for international audiences to be able to listen in to and the development of robotic prostheses which exist and are able to act separate from his body.

His series [Alternate Interfaces\[22\]](#) exemplify his effort for technological evolution of the human body. With his 1998 piece [Exoskeleton\[23\]](#), the artist straps himself into an upper body exoskeleton which controls a six-legged walking machine which is simultaneously carrying the artist. One part simple exhibition of walking in an augmented body, it is also an act of technologically cooperative music making, as each movement made by the arms generates movement of the pneumatic tubes controlling the legs, which in turn is generating sound not only in the movement of the individual parts but also in their impact with the performance space, not completely dissimilar to some earlier works of Merce Cunningham.

His piece [Movatar](#) (1999)[24] takes the process further with a motivation of handing control of a human body over to the technology itself. [Movatar](#) was created through use of what was called an “Inverse motion capture software”[25], making use of a virtual body which, upon movement, actuated that same movement upon a human body through a mechanical exoskeleton the performer’s subject body would be wearing. This motion of the prosthesis would generate a sonic feedback which would in turn motivate the virtual avatar to make its next move autonomously. Through generation of this feedback loop, Stelarc achieves something which Paik’s K-456 could not: a mechanical being with its own body which it is able to move and control of its own accord.

The next expansion of these concepts is found in the 2000 performance of *Extended Arm*. The piece splits the agency of Stelarc's body in half, his right arm extended by a mechanical third hand which he can control pneumatically, while his left arm is controlled through randomly administered shocks via electrodes attached to the various muscles of the arms. This contrast of control is at the heart of Stelarc's work [investigating potential future steps in technological augmentations of the human body](#)[26]. How do we balance autonomy of human with autonomy of machine, especially in a cohabitated body?

These questions of agency and cohabitation were continued to be investigated in his 2015 piece [REWired/REMIxed: EVENT FOR DISMEMBERED BODY](#)[27]. The dismembered body in question is Stelarc’s, as his physical body was located in Perth while his sense of sight was being received from London and his sense of sound being received from New York. Additionally, he again made use of the Third Hand from previous works though this time it was connected to the internet to receive input from viewers around the world during the time of

performance. The sights and sounds he was receiving were also recorded the day before the performance, meaning that this body and its agency were shared not just across space and medium, but through time as well. Stelarc rejects the idea of the mind and identity being separate from the body, and this piece makes it clear why he holds this stance. If one physical body is controlled in a shared capacity by countless disparate inputs, what identity is possible to ascribe to that body? In transforming the body into a vessel through which actions are performed by a larger anonymous audience can that body ever refer to itself as “I” or “me”?

[Blast theory](#) is a group from the United Kingdom that has also worked in the area of blurring the line between biological and technological, mostly through gamified interactive experiences such as [Desert Rain \(1999\)](#)[29]. This immersive piece, created in collaboration with the Mixed Reality Lab, was created in part as a response to *The Gulf War did not take place* by Jean Baudrillard. The piece confronts the blurring of the real with the virtual, acknowledging and challenging the role of western news media coverage of the Gulf War as being difficult to differentiate between authentic coverage of the events and propaganda pieces. Through the piece, participants are tasked with finding certain “targets”: virtual renditions of people who were directly impacted by the events of the Gulf War in some way. By the end of the engagement, participants have heard the stories of their targets’ relationships to the war and it’s “realness”. Of course, these being only virtual duplicates themselves we are still left to consider the impact that technology has on altering the reality of its subjects.

Another piece of interest from Blast Theory is their upcoming project [Cat Royale \(2023\)](#) [23], which will investigate the development of artificial intelligence technology and the ways it can interact with and otherwise impact those entities around it. The intelligence will be designed

with the goal of maximizing the happiness of kittens in a utopic space, happiness which the intelligence will also be responsible for measuring. With control of a mechanical arm to perform tasks with to play with and potentially care for the animals it monitors, the piece poses important questions to consider for the future of autonomous systems. How do you measure something as subjective as happiness, especially in those which you cannot properly communicate with? Can technology process and arbitrate these measurements on its own? As these systems and technologies develop further and become further connected to our lives and bodies, what will be the impact on our bodies and the bodies of those around us?

Founded in 1999, [Big Art Group\[31\]](#) uses live video capture and projection to distort space and body. Their Real Time Film technique, demonstrated in pieces such as *Flicker* and *House of No More*, is a process which multiplies performers immediately before the viewing audience's eyes. In the piece [Flicker\(2002\)\[32\]](#), projection screens lie in a connected row in front of the performers, obstructing some portion of their corporeal form in favor of displaying their cinematic avatars. Using highly precise choreography, the performers are able to perform zooms, pans, and even shot cuts on this projected surface without ever touching the cameras recording the action in the space. By performing the entire filming and editing process in front of the audience and allowing them to focus on any part of the process they like, Big Art exposes the unreliability of technology's gaze. When your audience knows how you are tricking the technology, it leaves open the question of whether they can always discern an authentic duplication through projection.

Of course, the work of Big Art questions what it even means for a representation to be authentic. In [House of No More\(2004\)\[33\]](#), the projection surfaces are not so encompassing,

allowing the audience to perceive even more of the behind the scenes nature of the pieces creation. On one level, this increases the authenticity of the piece as there is even less hidden from the viewer, but on another level the disconnected projection surfaces further split the audience's attention and leads to an increased questioning of individual choices and actions by the performers, as well as an interrogation of the impacts of those choices on their virtual counterparts. But is a mediated duplicate of a performance less real than the original?

Big Art also uses this method of live video feedback to modify the present bodies of the performers, and use their constituent parts to make an entirely new technoform. As in [SOS\(2008\)](#) [34], performers extend their arms into and out of the frame of the cameras on stage so their projections can be arranged to facilitate a new body on the projection surfaces. This dismembered digital body is no less a performer than the organic pieces generating it, and challenges the audience understanding of what a body needs to or even could be.

In conclusion, the human race has always a desire to transcend the limitations of the physical form and expand the possibilities of bodily expression. As we develop new ways to integrate technology and the human body, performance art is poised to continuously be the first to push new boundaries of what a body can be and achieve. However, these developments also have the potential to raise questions as to when a technology itself should be considered a body. As we continue to explore the intersection of technology and the human body, it is essential to approach these questions with empathy, grace, and care not only for ourselves but for these entities we create in our art, "living" or otherwise. Ultimately, we must embrace these conversations as no mere hypothetical, but a primer for the real dialogues on bodies we are already having and will no doubt continue to have.

Interview with Tei Blow

Tei Blow is a New York based sound designer and one of the co-founders of Royal Osiris Karaoke Company, a theatre group whose multi part performance series *The Art of Luv* explores intimacy and vulnerability as it has been changing and evolving over the course of the 21st century so far. They make extensive use of in-ear processes, as well as highly specific projection and sound design which garners empathy for their virtual co-performers and blur the boundary of which entities in the work have agency. This interview has been edited for clarity and brevity.

Zee Hanna: What I am writing about is primarily focusing on the different sort of methodologies of using technology to modify or otherwise augment our bodies, and personally I see a lot of that in your work with Royal Osiris. But I'm curious, as an opener, what is your perspective on how you see your own work doing this?

Tei Blow: Well, this is an interesting question. And I hadn't thought about this in a minute. In the context of Royal Osiris, I think the ways that we use the technology in that project is to automate ritual processes. About the haul video [Awesome Grotto], we used technology to automate officiant practices of Westernized sacred rituals so that everything that happened in the show was something that would actually happen in a church service but fully automated. And if you see the logo for the show, it's actually an index finger, Because the entire labor practice of pushing something with your index finger is automated into the Qlab system that presses all of the buttons for us. Our technology stuff in those works is all about how people work in rituals, not like that we have supervision or something crazy, you know, we're not augmenting regular human features, we're just removing labor.

ZH: Yeah, and I think that that is still a form of augmentation and there is still a lot of room for more mundane modifications when we're talking about cyborgs, it doesn't all have to be over the top spectacle. But I do want to touch on your use of in-ear technology in your work and appropriated monologue-style videos like in your Elliot Rogers piece, because I think that those in conjunction do something to blur the lines of who is and is not actively a performer in your work.

TB: I mean the in-ear stuff is born out of laziness. We took that from the likes of Marlon Brando or the Wooster Group notion of there being a lot of text and if an actor has to memorize it, especially an actor who is not a good actor, it's going to become very limp and terrible and take a lot of labor to do it. And so the general premise is to just remove the idea of having to do a bad job at something to just see an idea and get an idea on its feet. But in terms of what its function is in the performance, it's to make sure everyone in the audience is aware that the people that are on stage are stuck on a track and that they're receiving instructions like the way that an officiant would, or the way that like Alistair Crowley would when channeling some kind of supernatural being. The words and ideas that are being expressed by the people that are on the stage are not their own words, they're an amalgamation of societies cultural product.

And then the Elliot Roger thing, what we were trying to do is take this idea of like the first celebrity incel and apply a bunch of self-help videos to what we consider to be his, you know, personality issues and see what would happen if you just tried to roll back in time and fix the flawed person, because those are the solutions that this society is offering. So, the function of the technology is just to say "These are the things that this world is positing are the solutions to these problems that are much more complicated. This is the entire body of work that we can use to fix

this problem, and this is the portrait of the person in crisis.” And so, if you look at this the way that you would host a religious ritual, or a spiritual retreat, or talk back, these things would be formatted in a in a formalized setting. You kind of have to have a script and you have to organize the order of the piece, and the way that the in-ear works is to just keep that entire array of topics on script and in sequence even as it becomes this kind of chaotic collage.

ZH: I love that, thank you. I want to go back and talk about the automation of the awesome grotto piece, I guess I have a couple of questions so just to sort of like clarify, were there physical things in the space being changed by the cues, or was it just typical sort of sound and video elements?

TB: It depends what you mean. The system, which there's some sort of diagram somewhere, is a Q lab machine, lighting console and sound system, right? So there's a bunch of lights, a bunch of sound things, there is a single terrible quality projector that you see at the beginning, and then there is a number of physical devices. There's a whole surround of trees that have hanging wind chimes in them and every transition has a sequence of atonal, randomly selected chimes and you will hear a big bling, and that actually is a bunch of physical actuators, striking chimes, all the way around the room in a really tight chase sequence. Then instead of a projection after the 9-minute haul video is shown, the round projections, which are just like the heads, are actually camera obscura projections, so we walk into this giant box, put a lens in the front of the box, and then inside of the box are these 60,000-Watt stadium light LED's. And the light that hits the performer faces is projected through the lens onto the screen, so the image you're seeing is not a video, it's just a giant camera obscura.

And because that piece is about ancient Greek mystery, we're actually making a technological impossibility up until that moment happened, which is that until 2016 it was impossible, we think, to make a camera obscura projection like this because the LED technology wasn't out yet. Like you would burn alive if you tried to do this before that LED panel existed.

ZH: OK, and actually I was a bit curious about the camera obscura part of the piece because to me that is really exciting. The fact that it looks like a prerecorded or even just like a live streamed video, I keep thinking about it as though it's cutting out the middleman of projection in some way, and I really love that because it feels like you're not recording a video of yourself as much as you are making yourself into a video. You said that it was coming from the inspiration of working with the Greek mystery, but how did you arrive at the idea? Why was that idea especially appealing to you, perhaps generally, but also specifically within the context of this project?

TB: Well, this is maybe why this show is a little too heady, because the whole concept of the show was arrived at organically, when we discovered the haul video and discovered the ancient mysteries at the same time. So, the fundamental premise of [Awesome Grotto] is that someone posted an Internet video, we found it very interesting, downloaded it from YouTube, violating their terms of service, and then the person who posted the video deleted the video. And the Eleusinian Mysteries are about the theft of Persephone by Hades from the from Demeter and the like men of the world, the men of Ancient Greece having to make this journey to go and see this performance about Persephone being stolen by Hades in order to become more aware of the violent nature of feminine experiences, right?

We found a parallel in this by sort of enacting the same violence by accident as just 2 hapless idiots. It was like “this is exactly what we're doing. And this is what we do all the time. When we take someone's video and we're like, I'm going to post it.” This is also a pre TikTok era.

So, the solution to the problem was to create something that was socially functional in the way of the mysteries, which was to then reperform the same act of what we consider to be an unintentional offering with the technology. Where this person has essentially been stolen from, we allowed for that sort of transfer of personal spirit data to happen using similar technology. And we performed it to a number of people that numbered the exact amount of people that had viewed her video to the in the first place, So the audience was 49 people and the number of views of the original video was 49. That was the idea and the idea that this would be evanescent. It would never be, I mean aside from the documentation it would not be recorded, it would not exist again.

This technology seemed like just kind of, you know, our backgrounds are in science and engineering and then theater craft and fine art. So, we just thought this is actually the Fine Arts way to solve a drawing problem and what if we made it into a video problem? But also, our process is to collect technologies and collect ideas so that we can understand particular historical moments and deploy the right technology at the right time.

ZH: I didn't know that about the audience, I think that's really lovely. Now, you say that it's borne out of laziness, your use of the inner-ear technology, and certainly for longer scale shows memorizing everything is going to be increasingly difficult but also you are like you are collaging the text in some capacity and spending a lot of time working with and rehearsing

through the show. Is there a point where the inner-ear technology starts to become more of a reminder of what your next thing is rather than an informant of it, if that makes sense.

TB: You mean like do we end up learning the words?

ZH: Well, not like learning all of the words per se, but perhaps some kind of muscle memory of like, oh, this is where I'm going to say this bit or this is where I'm going to sort of do this action, and does that begin to influence the act of performing?

TB: Yeah, the show becomes learned inevitably after a while. And I mean there's a lot of stuff that's learned like there's choreography and there's go here and do this style work. We're not totally puppets, what we're trying to do with it in here is keep time slippage from happening and keep acting from happening, I mean, keep a certain type of acting happening like riffing because there is not a place in this work for actor commentary, unless we decide that that's what we want to happen. There's not a place in this work for people to be like "I had a bad day, so I'm going to bring that to the performance." Those things inevitably happen anyway, but we're trying to dial back any intervention or actor subjectivity beyond what we have scripted into the performance.

And it's not that we don't respect people or anything, you know, we're also the people that are performing. It's to keep the sort of vaudevillian qualities away from the political and psychological space of the work. We don't have any interest in improvisation unless it is scored and structured, like "here you can play a saxophone solo, it doesn't matter what notes you play." There's no reason for an actor to be like to have any kind of arch winking to the audience or any sort of commentary on the text because it will dilute the idea and the idea has to remain rigorous and insane in order for the piece to have the effect that it has, you know what I mean?

Because on the one like the thing that we tell people is it's because we're lazy and stupid but that's a Socratic way of just getting away from talking about computers with people who don't have any interest in talking about how in-ears work. But with the in-ear thing, we found out about this process when we were working with romantic comedies, and we were assembling the ultimate romantic comedy pickup scene. And it made much more sense to tightly pack all of the texts together in the in-ear from all of these romantic comedies and just force these actors to say the words as quickly as they were coming into their head.

Because as soon as they started to adopt the Schtick-y quality of Billy Crystal and really act that part they would run into these kind of actor snags where they're doing a take on someone else's felt performance, you know. So the function of it is to keep people reined in so that they don't fall into a state of connecting too much with the audience while having their ears plugged.

Because it's kind of dangerous, and the danger has to come from another, the danger has to come from the computer possibly crashing, or the context of the work, not whether or not a joke plays well, the jokes are buried into another dimension of the thing.

ZH: I like that, because there's something there, about the very intentional reproduction, but keeping a very intentional barrier of, I don't know if artificiality is quite the right sort of word, but keeping some quality of not being completely the natural thing, is that me sort of understanding correctly?

TB: It's more like, if you think about the performance like a film, like a sequence on a timeline of prerecorded content that you can edit for rhythm, then you have an obsessive totalitarian control over rhythm, and the idea of this work is to give people a theater experience that is obsessively

controlled up to the point of the performers themselves who now are puppets and they are not actors. And they can do an OK job, but they are imprisoned on a timeline. And that feeling, it's not a thing that I know how to explain.

It's like some people hate this shit because it's they think that we sound monotonous. Which it is true, we're very monotonous the instructions are to speak in a monotone. But that's the whole point of the work is to keep people stuck, to get the audience to feel this inevitability of driving towards a timeline on a script, whether you experience it as people being bored or however people respond to it, the audience has to feel the rhythm of the thing. And this is really only aided by the fact that the design is sliced into all of these beats as well. The rhythm of the thing has to feel like it's controlled by some kind of master timeline, and some people feel that, and some people do not feel that, unfortunately.

ZH: Yeah, I think the filmic context helps clarify that.

TB: There's a little history to that, which is borderline interesting, but automated performance as a product is the future we're heading towards, and this is all a gesture towards that stuff.

ZH: OK, well, you can't drop that and then not elaborate. So please, please elaborate on this automated future.

TB: Well ever since mechanization, in the early 1900s and late 1800s there was a large movement towards mechanized music, like automated music. This is like organs that play themselves or like things that are like a player piano but gigantic. And the biggest purchasers of automated music,

besides from home hobbyists, were people who owned clubs. Pre prohibition era clubs where people were playing music and dancing would buy things like this. And this is the Lore, I wasn't there so I don't know, but this is the lore of this. They would buy automated music machines that were like basically giant robots so that when their band went on break, they could keep people dancing and keep selling drinks or keep selling, you know, food and keep the room active because if you ran a venue that was a music club or something, you needed people to stay engaged.

And to me, this was really the birth of automated mass media. People think that the tape recorder or the recorded medium was really mass media, but it didn't have that much public reach, it had private reach and you had to be very wealthy to own a wax cylinder player or own any of this music. So these kinds of public performance robots were actually the first form of automated public entertainment as far as I'm concerned.

And now 100 years later, seeing this rise in immersive entertainment, which is more or less a replacement for performance, movies, music, and art. It's replacing the museum it's replacing public performance and it is fully corporately funded. We're recontextualizing classic artworks like the Van Gogh experience and things like this into a space full of projection. This is the future, and as soon as we get into a place where meta verse is more you know, technically viable and democratized and purchasable I think there is going to be a real financial impracticality to hiring people to do live performance when a computer can do it.

Because that's the whole premise of all of this automation is to remove labor and there's nothing profitable about a performer unless they're a star and there are no stars anymore, there are just

manufactured talent. Like, you don't go to see Drake play an instrument you go to see Drake with the video set and the screen and look at his face magnified on the screen. If they replaced Drake with an AI tomorrow, I don't think anyone would even notice.

ZH: And in fact, many didn't.

TB: Exactly! And not that there's not artistry there, but there's no reason for the product to be anything other than robots.

ZH: Yeah, well now I'm interested if you caught wind of, especially over the course of the pandemic, the Minecraft concerts and ROBLOX concerts that were a thing.

TB: I haven't seen any of them, but I've seen enough things that take place in game spaces. I didn't know that you could live stream music and robot or live stream audio in Minecraft but it's not impossible to imagine. I just hadn't seen anyone advertise it. The only thing that I've seen of that was the GTA Online Hamlet which is amazing.

ZH: I remember reading about this. I don't think I've watched the video of it, but it sounds amazing.

TB: Yeah, that is really, really crazy because there's no 4th wall, like I think the character playing Polonius had to be the guide and I think there's only like 8 audience members, but everyone's wearing some kind of gaming platform approved headset and they're walking around inside of the online versus game and avoiding places where other players might come in and like, you know, shoot a missile into them but they really do really interesting things in terms of how this piece functions inside the game and also the Polonius character is like the guide, and he's

constantly talking to the audience and giving everyone instructions, like “stand over there”, “get on this blimp” and then “all right, now the show is about to start, OK, go.” And then they just start acting.

It's really kind of wild how chaotic and sloppy it is, but also they're really doing Hamlet. It's a very interesting mix of what's impossible to do and what the compromises are in order to navigate in that gaming space.

ZH: Well, thank you so much for taking the time and talking with me.

TB: No problem, I'm looking forward to seeing how things turn out.

Artist	Website
Royal Osiris Karaoke Company	royalosisiris.com
Blast Theory	https://www.blasttheory.co.uk/
Stelarc	stelarc.org
Big Art Group	https://bigartgroup.com/
Slippage	https://slippage.org/
Antibody Corporation	https://www.antibodycorp.org/events.html
DUMB TYPE	http://dumbtype.com/

BIBLIOGRAPHY

1. Parker-Starbuck, J. *Cyborg Theatre: Corporeal/Technological Intersections in Multimedia Performance*. Springer, 2011.
2. Bay-Cheng, Sarah, et al. *Performance and Media: Taxonomies for a Changing Field*. University of Michigan Press, 2015.
3. Britannica, The Editors of Encyclopaedia. "Loie Fuller". Encyclopedia Britannica, <https://www.britannica.com/biography/Loie-Fuller>. Accessed 12 March 2023.
4. Rosenberg, Douglas. *The Oxford Handbook of Screendance Studies*. Oxford UP, 2016.
5. Fuller. *Garment for Dancers*. 518347, 17 Apr. 1894.
6. Ferry, Ellen and Blumberg, Naomi. "Oskar Schlemmer". Encyclopedia Britannica, Invalid Date, <https://www.britannica.com/biography/Oskar-Schlemmer>. Accessed 12 March 2023.
7. "Oskar Schlemmer Artist Overview and Analysis". [Internet]. 2023. TheArtStory.org, Content compiled and written by Alexandra Banister, Edited and revised, with Summary and Accomplishments added by Kate Stephenson, Available from: <https://www.theartstory.org/artist/schlemmer-oskar/>, First published on 25 Mar 2019. Updated and modified regularly, [Accessed 12 Mar 2023]
8. Fabrizi, Mariabruna. "When Body Draws the Abstract Space: 'Slat Dance' by Oskar Schlemmer." *SOCKS*, 8 Feb. 2018, socks-studio.com/2017/07/19/when-body-draws-the-abstract-space-slat-dance-by-oskar-schlemmer.

9. The Guardian. "Oskar Schlemmer's Ballet of Geometry – in Pictures." *The Guardian*, 19 Oct. 2022, www.theguardian.com/artanddesign/gallery/2016/nov/24/oskar-schlemmers-ballet-of-geometry-in-pictures.
10. *Merce Cunningham - Merce Cunningham Trust*.
www.mercecunningham.org/about/merce-cunningham.
11. *Variation - Merce Cunningham Trust*.
www.mercecunningham.org/the-work/choreography/variation.
12. *Variations V - Merce Cunningham Trust*.
www.mercecunningham.org/the-work/choreography/variations-v.
13. *TV Rerun - Merce Cunningham Trust*.
www.mercecunningham.org/the-work/choreography/tv-rerun.
14. Cedar Dance Animations - DanceForm. "Dance and the Computer - Merce Cunningham - Cedar Dance Studio." *Cedar Dance Studio*, 3 Nov. 2019, cedardance.com/dance-the-computer-merce-cunningham.
15. *BIPED - Merce Cunningham Trust*.
www.mercecunningham.org/the-work/choreography/biped.
16. Smithsonian American Art Museum. "About Nam June Paik." *Smithsonian American Art Museum*, americanart.si.edu/research/paik/biography.
17. "Nam June Paik Art, Bio, Ideas." *The Art Story*, www.theartstory.org/artist/paik-nam-june.
18. Ardia, C. a. Xuan Mai. "Nam June Paik | the Father of Contemporary Video Art." *Culture Trip*, 17 Oct. 2014, theculturetrip.com/asia/south-korea/articles/nam-june-paik-the-father-of-contemporary-video-art.

19. Sensilab monash. "SensiLab Forum - Stelarc." *YouTube*, 27 Mar. 2019,
www.youtube.com/watch?v=9f9Yh1_aYxc.
20. "The Quietus | Features | a Quietus Interview | Phantom Flesh: Extreme Performance Artist Stelarc Interviewed." *The Quietus*, thequietus.com/articles/11469-stelarc-interview.
21. Magazine, Clot, and Clot Magazine. "STELARC, Examining Ideas Around the Obsolescence of the Human Body | CLOT Magazine." *CLOT Magazine*, 22 Feb. 2018,
www.clotmag.com/body-sculptures/stelarc.
22. "STELARC | ALTERNATE INTERFACES." 2023, www.stelarc.org/?catID=20218.
23. "STELARC | EXOSKELETON." 2023, www.stelarc.org/?catID=20227.
24. "STELARC | MOVATAR." 2023, stelarc.net/?catID=20225.
25. *Movatar* | *Scanlines*. scanlines.net/node/3505.
26. *Extended-Body: Interview With Stelarc*. web.stanford.edu/dept/HPS//stelarc/a29-extended_body.html.
27. "RE-WIRED / RE-MIXED: EVENT FOR DISMEMBERED BODY" 2023,
www.stelarc.org/?catID=20353.
28. "Blast Theory" *Blast Theory*, www.blasttheory.co.uk.
29. "Desert Rain | Blast Theory." *Blast Theory*, 18 July 2022,
www.blasttheory.co.uk/projects/desert-rain.
30. "Cat Royale | Blast Theory." *Blast Theory*, 22 Feb. 2023,
www.blasttheory.co.uk/projects/cat-royale.
31. "Big Art Group." *Big Art Group*, 27 Feb. 2023, bigartgroup.com.
32. "Flicker." *Big Art Group*, 3 Feb. 2021, bigartgroup.com/work/flicker.

33. "House of No More (2004-2007)." *Big Art Group*, 24 June 2021,
bigartgroup.com/work/house-of-no-more.

34. "SOS." *Big Art Group*, 24 June 2021, bigartgroup.com/work/sos.