As a dancer with The Forsythe Company, I regularly perform dancing that I do not understand. While sometimes I feel that my inarticulateness devalues my experience, my difficulty verbalizing the content embedded in our work reflects more about the role of language within our inquiry than the value of the exploration itself. In times of doubt, I remind myself that the unknown is the rich territory for the acquisition of the known. If I (if we, if he) were to formulate the unknown by “speech-acts” or “hypotheses” Forsythe’s choreographic questioning would be a different research process, creating an entirely different product.

William Forsythe’s creative process is enacted as the control of a directive environment that produces choreography. Forsythe’s ballets are traces of collective inquisition, galvanized by Bill’s charisma and leadership. In their fresh state, Forsythe’s choreography captures investigation, struggle, and euphoria within sharp yet fragile frames. Time congeals the choreography into a state of knowing that Bill often has to disrupt or destroy in order to re-find something like the earlier state of discovery. Through this working process, the company members develop multiple layers of knowledge that are tangled between each other and within individual bodies. We print this knowledge into means of sharing: into master classes, into written texts, into discussions, into healing work, into The Forsythe Company’s projects, and into our own personal choreography.

I find it necessary to preface my talk with this context, so that Forsythe’s commitment to develop digital dance texts does not ring with over-enthusiastic positivism that suggests irreverence towards physicality. Rather, Forsythe is a discursive choreographer whose work at large questions meaning and textuality. His attention to dance discourse fits appropriately opposite a body of choreography examining disappearance and loss. Through creating digital traces, Bill has a delightful opportunity to choreograph something material, something that lasts, and something that can be shared without geographic borders.

**KNOWLEDGE AND DISCOURSE**

[[ Due to time constraints, this section was omitted from my Barnard lecture. ]]

The title of my talk, “Technological Artifacts,” implies the creation of a contemporary form of trace, a historical rupture of past and present, and the rearing head of scientific inquiry. *Artifact*
(1984) it is the title of one of William Forsythe’s Ballets; it is also a pun (arty fact) and it is a trace or remnant of human action. I also chose the word artifact to suggest the helpful light of Foucault’s archaeology; his inquiries “to rediscover on what basis knowledge and theory become possible” (Foucault Order of Things, in Continental Philosophy p 251).

While my purpose here is to convey some practical and concrete information about three examples of William Forsythe’s education projects, I wish to nest this content within a theoretical framework. The transmission of William Forsythe’s choreographic knowledge is a case study of discourse formation within the field of dance. Dance discourse can be thought of (poetically) as the migration of dance knowledge.

But what is this elusive knowledge? There are many ways of knowing. Knowing involves the cognitive processes of thinking, reasoning, verbalizing, comparing, and debating. Knowing also involves the perceptual act of sensing and the emotional process of feeling. Knowing is an act in the present, built upon experience in the past. The substance of knowing seems to come in two flavors: that which is point like (information) and that which is procedural (process). Knowledge is reflective, involving the processing of the present with the filtered, reconstituted, and shaded memory of experience. Knowledge is undeniably dependent on linguistic formulation and documentation, on the ability to refine or re-experience, and on communal memory, consensus, and shared vision. Knowledge feels different when it is based on different time-scales: fresh information, material that has been “slept-on” for a few days, experience that has been deepened for years, and matters that have been known for decades. Knowledge also feels different depending on its nature: whether it was memorized, verbalized, or sensed.

The common assumption is that knowledge is mental—meanwhile the body persists. But (see Noë’s Action in Perception) the body is an essential part of the perceptual apparatus, and (see Damasio’s Descartes Error) emotion is corporally dependent and instrumental to state of mind and reasoning. In William Forsythe’s workplace, we are encouraged to let the body think (see Dana Caspersen’s forthcoming article in the Routledge Forsythe anthology). In Frankfurt I have witnessed the plasticity of the mind/body interplay and developed a foundation of embodied knowledge. I have also suffered the mind/body chasm, particularly in the failure of the English language to convey my dancerly experience and in the act of being physically repressed through the self-imposed decision of being mentally critical.

Inspired by Foucault, I ask what could happen otherwise: What would happen if there were more activities that asked humans to develop our somatic understanding of ourselves and then to translate that into words? What would happen if childhood education involved more physical education? What would happen if education were geared to the whole human apparatus?

Dance’s ephemerality is also a constraint. How does one develop knowledge of something that disappears, or something that is enacted by a changing (living, breathing) organism? The boundaries of choreographic practice are the current limits of how humans can remember dancing—both mental/corporal memory and tracing/documentation in material or digital form.

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1 Bill often uses the words knowing, knowledge, and skill.
2 Quotation from Ann Carsen in Forsythe’s Kammer/Kammer
One’s memory of dancing is a mixture of stored linguistic observations, sensory recollections (visual, aural, and tactile), as well as neuro-muscular memory. The angst about dance’s disappearance is angst that stems from the power that comes from knowledge based on reproducibility and consensus.

My colleagues and I recognize the difficulty in sharing our experiences outside the choreographic organism of Ballett Frankfurt/The Forsythe Company. The meaning and knowledge within our workplace is physically and linguistically stylized and specific. It is developed in a relatively isolated environment (Frankfurt employs few professional dancers outside of our network) where we work long hours together. It is also challenging to define the boundary of an individual’s knowledge, as we have so many communal experiences.

I find it useful to envision the dance world as a series of knowledge networks within which there is enough common language, experience, history, and culture to have a collective idea of how to read, discuss, and embody dancing. These networks are drawn between people who share a similar language for describing and/or notating dance. They are characterized by shared experiences practicing dancing, similar level of expertise, common access to resources (such as theaters, libraries, periodicals, and the internet), and shared notion of a performative dance cannon from which to reference movement and choreographic ideas. Within the context of dance as a western performance art, these networks reflect the bifurcation of dance’s ephemeral public presentation and its closed creative process; thus creating separate networks between the participants in a creative process and those who witness the result. The networks are tied to geography and formed by meetings and migrations, but they may also transcend physical exchange. They pay homage to the myriad of learned cultural influences that become embedded within the body, making it (in most cases) easiest to embody dances that one is culturally connected to.

The network around William Forsythe reflects the different forms and scales of knowledge. The densest part of Forsythe’s network is his local web of dancers, technicians, administrators, and staff who together create, experience, and perform choreography. On a mid-range scale is the effect of the company’s performance tours, which reveal the outcome of his artistic process to thousands of people yearly. Bill’s knowledge becomes most refined and reaches its furthest extent through digitization. The process of creating digital tools for affords Bill the opportunity to dialogue with new colleagues, translate knowledge into text and images, and re-see his own ideas through animations. The process of making digital education tools has been synonymous with Bill’s choreographic refinement.

William Forsythe’s information network reflects his knowledge politics: how he associates knowledge and questioning with democracy and freedom, as well as his desire to empower dance by creating dance discourse. In the body of this lecture I will describe three examples of how William Forsythe has used technology to create a knowledge network around his person. The first example is Forsythe’s CD-Rom Improvisational Technologies (1999), the second is the current One Flat Thing, reproduced Online Interactive Score Project (2009), and the last is a future project (under the working title Motion Bank) that will be an online environment that engages a diverse audience in a dialogue about choreographic counterpoint. I will also suggest how Forsythe’s discursive practice is mirrored in his choreographic process in which authorship,
responsibility, and information is networked during the creation process and within the performance of the work itself.

**IMPROVISATION TECHNOLOGIES**

William Forsythe’s *CD-ROM: Improvisational Technologies, A Tool for the Analytic Dance Eye* was initiated by digital artist Paul Kaiser, who was the first to envision how animated drawings could be used to illustrate Bill’s spatial imagination. [From now on, I will refer to the CD-ROM as Improv Tech.] The version made available to the public in 1999 consists of a series of 64 animated lectures by Bill (theory), four short video examples of improvisations by members of Ballett Frankfurt dances (examples), and video dance by Bill called *Solo*.

The project was initially focused on developing a tool to help the newest dancers of Ballet Frankfurt acquire the company’s process of physical decision-making and learn a lexicon of spatial imagery. The actual usage of the CD-ROM within Ballett Frankfurt is not usually discussed. Rather what is highlighted in the literature/documentation is the self-reflexive value of the project – the refinement of the company’s ability work through spatial imagery – as well as the accessibility of the visualizations to non-dancers.

Although the white animated lines in *Improv Tech* assert an analog relationship between movement and spatial intention, they do not detract from the mysteriousness of this sculpturally clear and articulate movement. Perhaps this is because one could not guess the spatial imagination if there weren’t these helpful visual aids, or perhaps because the dancing rests in an unusual response to space. This danced mimesis demands playful intention and unusual accuracy.

[Demo: extrusion, click on E, go to Noah]

The knowledge taught in this CD-ROM is knowledge extruded from Bill’s personal affinity with spatial reasoning as well as his Ballet background. In an interview with Paul Kaiser in 1999, Bill said, “I’ve realized that in essence ballet dancers are taught to match lines and forms in space.” Through this medium of the mirror, the dancer has the opportunity to scrutinize his or her body and judge the self-image according to what she or he has seen of other dancers, as well as some didactic consensus of idealized form.

Yet unlike in Ballet, the visual representations in *Improv Tech* are not idealized glyphs or goals for the end of the movement. Rather, Bill addresses “the very important point just before the invention of motion” (Nik interview). Moreover, while in ballet the French signifiers (the names of steps) are attached to concrete actions (both shapes, like coupe, and short-series of movements, like balance) in *Improv Tech* the signifiers are attached to processes. Knowledge is shifted from the concrete to the procedural.

By considering the moment before movement generation, *Improv Tech*, offers how to develop intention towards movement. This intention could take any of the forms provided in the knowledge itself: intention as speech acts (like thinking the word extrusion), intentional through vision (by imagining a line towards the forward right high diagonal), or intention as a process of
organized geometric description (creating a lexicon). These intentions enable the practice, exploration, refinement, and memory of movement.

In Bill’s lectures, he suggests the difference between reasoned (cognitive) geometric imagination from the potential “feeling” or “intuition” that comes from research, practice, and study. Shape in space (which Laban connects as with thinking and attention) becomes something “felt” and “sensed.”

[ demo: point point line: complex movements ]

In this example, when Bill speaks about “feeling” the coordination, the visualization aids disappear and the complex coordination (again) becomes suggestive but not an analog application of the visual idea. This is not visualized mimesis.

The creation of Improv Tech was an act of knowledge refinement--organizing, naming, demonstrating, and rethinking principles that were developed in conjunction with feeling. Conversely, the user has to work in the opposite direction: the use of the methodology to build physical intuition.

This transition of using Improv Tech “before” the movement (as deliberate intention) turns into a process using the ideas “during” the movement (as intuitive intention). In Bill’s own words:

The technique is one way of taking mental note of what just happened to you while improvising. My body naturally moves very fast, so I guess a lot of the technique resulted from the necessity of observing myself at high speed.

Although I don’t think there is a Golden Way, in general The Forsythe Company dancers perform improvisation by entraining a somatic state where the body and mind share leadership. The dancers invest in the present, with knowledge of the past that is valuable for making real-time composition decisions for the future.

From my experience improvising for Bill, I have learned that when I entrain the act of improvising as intentional cognitive-perception, instead of more intuitive motor intentionality, I develop a rift between my physical and intellectual potential. Said plainly, if I improvise decisions based primarily with my head through “speech-acts” my body does not reach fully empowered coordination. But if I follow states only based on feeling, I do not make decisions that are performatively interesting in the context of real-time composition. Conversely, in the balanced state that Bill describes (when the mind is observing the body) when goals are stated verbally in my inner dialogue, they don’t puncture my motor state.

What I’m trying to suggest here is that the act of using Improvisational Technologies and the work of Bill at large embody many questions from philosophy of mind and cognitive neuroscience. In the last ten years Bill has grown increasingly aware how he could potentially learn from philosophers and scientists, and how they could likewise learn from analyzing his work. One question is how to effectively accomplish this bridging between arts, humanities, and
the sciences, giving that the expert language in all these disciplines produces a high activation energy or boundary to understanding.

The success of *Improv Tech* lies is the in the effectiveness of superposing language, dancing, and an animation of the dancing idea. The surprising outcome was that the CD-ROM, which was made for the purpose of training dancers, was frequently used by non-dancers, particularly in architecture classrooms. This fact excited Bill, as it suggested that these digital tools could be shared like texts; that they were a new form of literature that was contributing to the ability of reading dancing and sharing knowledge both within and outside the field.

**One Flat Thing, Reproduced**

[Note: One Flat Thing, reproduced Online Interactive Score Project is a mouthful. I will instead refer to it as the Tabledance Score Project.]

Forsythe’s next education project will be a document (a website) that impresses people with the knowledge imbedded in choreographic practice. Bill wishes to create a tool that will sharpen people’s analytic ability to discern patterns and structure within choreography; another tool for the analytic dance eye.

The subject at hand is the formalism of choreographic counterpoint. Counterpoint is a word that Bill uses to describe the choreographic craft exemplified by individuals such as Marius Petipa, George Balanchine, Trisha Brown, Jonathan Burroughs, and himself. I recognize that borrowing a term like counterpoint from music theory and applying it to dance is nontrivial. Bill and the design team are actively debating and constructing what this term means.

While one could conceive of counterpoint as the process of making something ordered, it appears that Bill is very interested in the edges of order, in choreographing changes that keep the contemporary mind curious, attentive, and questioning the organization of the piece. Counterpoint involves the act of mixing aesthetic ideas that are pleasing and consonant, with things that are perplexing and dissonant, in a proportion and at intervals that resonates with contemporary audiences. Counterpoint also stamps choreography with the mark of the author; it is evidence of design, intelligence, and craft.

We begin this endeavor to explore choreographic counterpoint by hanging threads off of an example of dancing: the ballet called *One Flat Thing, reproduced*. Let me show you a quick example of the dancing, before I describe in better detail what we wish to make:

[demo: OFTR film]

This dance, which was made in 2000 comes out of a decade long process contemplating Robert Scott’s failed expedition to the South Pole. In the company we affectionately call the piece *Tabledance*. Bill describes *Tabledance* as a community that survives because of its commitment to rigor. Although the movement and the spatial development are thrilling, the dance’s innovation lies in the level of complexity of the designed relationships, as well as the “relational”
temporal structure. In order to perform the dance, the dancers must network their attention; the self becomes an accountable agent in a community of responsibility.

Bill’s intention is to create an online, interactive “score” for Tabledance. This score will be made within the multidisciplinary structure of The OSU’s Advanced Computing Center for Art and Design (ACCAD).

We began by establishing what the score will NOT be. This score:

- will not prioritize reconstruction
- will not foreground documentation of historic genesis
- will not emphasize the dancers’ physical experience of the piece
- will not contextualize the work within Bill’s choreographic history
- Nor will it produce a language of description that requires a user to have extensive background with a descriptive system (such as Laban notation, Bill’s own language for speaking about the piece, etc).

This “Score” will prioritize animation of choreography’s formal design, of its counterpoint. There will be varying points of view: Bill, the dancers, and other experts from Architecture, Psychology Cognitive Science, Mathematics, and Music Theory. The score will also include abstractions of the dance; conversions of the information within the piece into alternative visual and sonic forms. The user will interact with the score: making observations and producing creative and individual outcomes. From the interplay of these elements, Bill’s knowledge will be decentralized. Different points of view, multiple theoretical frameworks for structures, and personal exploration will interplay. Thus study is structuralist and formalist, but there is no absolute meaning. Rather the known will be an avenue for forming questions about choreography at large, and hopefully helpful for the unknown aspect of the choreographic future.

The Tabledance Score Project is not past-looking; we are not creating a “tomb” for the trace. Rather the website is an “anticipation of collective memory.” The collective memory that Bill wishes to create is his most forward-looking education project, a vision currently under the working title Motion Bank.

**MOTION BANK**

Motion Bank will be an educational framework for creating and transferring knowledge about dance. It will a knowledge network, an online community, perhaps a contemporary archive, in which dancers connect to new information outside of dancing and non-dancers find information about dancing. Forsythe hopes that this environment will create a community in a dialogue about choreographic counterpoint. Motion Bank is the reason why he making the Tabledance score; a profound offering to initiate dialogue.

Although there is no timeline or even project description yet, a few things about the politics of the project are clear. Bill wishes:

- to foster direct communication between dancers

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3 Marc Bloc from *Information Is Alive*, p 16
-to facilitate dancers being coherent about their medium
-to create alternatives to textual documents that enable information exchange
-to assert that dancing conveys knowledge; particularly that choreography can involve complicated, rigorous practices of devising structures.
Lastly, Bill does not want this project to be about him. Rather he would like it to be an environment for multiple choreographic viewpoints and relevant to dance in general.

CONCLUSION

Let me conclude briefly with a couple of points.

1-William Forsythe is invested in creating a knowledge network, an education environment that minimizes geography and hierarchy, and respects independent, adult, learners. Bill has embodied the connection between knowledge and power by decentralizing both within his company, a reaction to the hierarchical organization of classical ballet. Forsythe repertory, including performance of One Flat Thing, reproduced similarly demands that the performers act attentively and responsibly to each other.

2- Motion Bank is dedicated to creating “text-like” vehicles for sharing knowledge. I believe that Bill senses the need for a lingua franca, a practical form of exchange, to enable dancers to be coherent about their medium.

3- The desire to present dance as coherent, as knowledge-based, is related to Forsythe’s impression of dance’s tenuous place within Western culture. Obviously this stems from the cultural gap that foregrounds reason over emotion, mind over body. The closing of Ballet Frankfurt also contributed to this concern, asserting that politics could at any point trump meaningful artistry. Documenting dance’s knowledge could potentially afford dance security.

4- The type of knowledge that Forsythe is choosing to convey—the scientific and the structural—is knowledge that might afford dance power. The corporeal, the expressive, the spiritual, and the inexplicable are very important elements of Bill’s choreography, but are difficult to channel through digital media.

5- The digital world allows networks to transcend geography. We are at a particular moment in history where dance in America and Europe is starting to share information in an unprecedented way. I’m curious how this, as well as how information networks, will shape our future.