

TUTU IN A TEST TUBE

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I am imagining the potential relationship that *Dance Engaging Science* might become. Most of what I imagine is disgusting: science that I would beat with a stick, and dance that deserves to hide under a rock. But still I hope for the unimaginable. The courtship of the odd couple—dance meets science—begins as a political alliance. To play consequently, means to move publicly as the allied, also to be dissatisfied with alignments that injure either party. Vigilance my friends! Critical adventure with the enemy!

Dance Engaging Science

I know better why dance is engaging science, than why science is engaging dance. The story goes something like: let there be electrodes, let there be knowledge, let there be money! Science, as a method of legitimizing knowledge, is the perfect partner for dance’s power trip. Digital tools, notation forms and data analysis might choreograph dance a more visible and relevant hold in contemporary society, a more stable place within shrinking cultural budgets.

The increasing institutionalization of performance within universities is both a refuge from capitalistic currents as well as a consequence of the gradual acceptance of the field as a body of knowledge. Academic openness still requires that dancers formulate and share research practices, doing so by producing texts and strategies that circulate more within academic architectures than within the artistic field. Buzzwords circulate faster. Everyone seems excited by the word perception, and loves to repeat the phrase “knowledge in motion.” When coupled with the actual need in science to rethink the body, such as the embodied turn of cognition, there is a red carpet for danced engagement of science.

Changing choreographic practice also pressurizes the field for further clarification. As the company model of dance becomes clunky, expensive and for many reasons outdated (not to mention the deaths of leaders like Merce Cunningham and Pina Bausch) unitary visions of movement are fading. Contemporary approaches to choreography and pedagogy eschew the vision of the singular. Instead, forms of collaboration, hybridization, and critical resistance have been produced—realizing choreography that disturbs and upsets conventional notions of theatricality. Choreographic innovation is at odds with the reduction of movement to analytic material

and the view of the body as a stabile, quantifiable entity. Rigorous and relevant Dance Engaging Science must stick to pressing choreographic matters. Let's think the rupture between the disciplines, not bridge the fields into a contiguous or overlapping space, or worse regress to notions of the choreographic that are passé.

Interplay between the fields is bound to yield many misunderstandings. We must choose our initial working teams very carefully.

Bad science is monstrous. It produces, among evils, reductive explanation to problems that are contextually bound. Bad science ignores the consequences of forcing objectivity within strategies that are deeply, and interestingly, defiant. Yet scientists battle bad science. The field is mobilized by its own ability to doubt, judge, and critique. I can imagine nothing worse than how "Dance" will be ridiculed by scientific work that mutilates its own field's standards. At its best, scientific thinking can be exquisitely agile and deeply transformative. So what seems at stake is 1) engaging only the very best and 2) empowering scientists' own capacity for self-critique. We do not want scientific police, but rather a re-choreographing of the capacities that enable stealthy seeing.

Dance, on the other hand, is methodologically sophisticated while often appearing very dumb. Dancers sometimes circle within thinking strategies that do not communicate. Without consensual procedures for sharing process, many know not what we dancers do. I wonder how science can honestly learn to think along the conceptual lines that choreographers and dancers learn, when dancers themselves have little consensus about the knowledge and research methodology within their own practice.

Dance Engaging Science is animated by a fear of manipulation and objectification—the confluence of "to know" with "to know how to manipulate" (34). Yet neither dance, nor science should be "reduced to a real project of mastery" (Ibid.). In *Power and Invention*, Isabelle Stengers powers against such a reduction of science. Before the techies, we must crusade for dance. Yes: contemporary development in choreography offends the hierarchical structures that induce replication and mechanization of bodies and movement.ⁱ

Let's instead recognize that in both fields, the study of material and the study of dynamics are coupled. The history of physics cannot escape fundamental questions, similar to these in choreography—namely the relationship of being and becoming, permanence and change, unities vs. interactions (Stengers 48). So let's ask: What is the material from which a choreography is constructed? When, in what case, and how much is there? How do we designate that material, as different from the material of the body? What precisely becomes animated in the act of choreography? What about these enabling constraints facilitate reproduction? How does "the Dance" exceed the enabling constraints of animation? It is our collective project, in Dance Engaging Science, to consider both the materiality and the dynamics of choreographic action, and in doing so

further develop tools for the analytics of process, change, and emergence. We must avoid brutal simplifications that don't generate etwas interesting.

Choreography is approximately but not precisely reproducible. Fragile and alive, it exceeds capture. To say it's approximate or arbitrary would be to belittle the complex phenomena of its invention. Choreography can be a practice at the margins or limits of presence and memory, rather than something defined by these limitations. Obviously not all choreography is built deliberately about this, but changes in technology (like the personal video camera), choreographic tools, and discursive practice change what's capable of being remembered. Science too, evokes at the limit of what we can possibly think or measure; the practice involves constructing apparatuses to capture, whether they be notation forms that drive theory, computer power that feeds models, or sexy experimental configurations and instruments.

I find the engagement of choreographic and scientific thinking is most promising in the study of presence and emergence—in negotiating or orienting future. Words of futurity include speculation, prediction, betting, modeling, hypothesizing, and contingency. They include outcomes that are improvised and outcomes that are organized, planned, or choreographed. They include outcomes that are by chance. And, if we are lucky, they include outcomes beyond any measure of interpretation, the moment of creation.

Science often futures through simplifying complexity—through thinking that evades circular logic and rather thinks things forward. Émile Meyerson describes science as, “the need for an explanation that reduced the diverse and the changing to the identical and the permanent, and as a result eliminates time” (Stengers 41). The control of science, is the definition of valid, often causal difference, or the reduction of situation to determine effect.

Choreographic research, as I've experienced it, works differently towards the deadline of the performance. Knowing when it will end, but with loose constraints as to what will be, creative process can invent itself into being. The ways of working are as diverse as the people who work with them. Choreography may be more aligned with speculation than science. In choreographing the future, we may wager to make an event somewhat reproducible. But what do we really wager in performance? How far we will stray from possibility? How free we are to follow potential? How may we loose or gain's someone's respect, fascination, or admiration? How we might swell up into a project or a production with a bigger budget?

Collaboration, let alone interdisciplinary collaboration, is tricky business. I fear outcomes that are not relevant. I fear work that sticks to disciplinary process and takes no risk. Science has a history of negotiating research through written debate of evidence. Dance spreads more like contamination. Norms, both in science and in dance, make criticality tough business. In the no man's land between dance and science, I have no idea what the standards are, let alone the outcome. In this territory, we must be specific about our

audience and the goals of our communication, perhaps offering translations and guides for different entry. Contexts (as well as objects and subjects) of study, standards of evaluation, and outcomes should be the mantras in initial brainstorming of engagement.

One risk of collaboration is compromise. Another is Frankenstein. Are we prepared for the initially unpalatable taste of collaboration that meets neither field's standards of operation? Do we deliberately stay away from that territory?

Can dance be rigorous and not to cower in front of science? Good science, like good choreography, does not silence the actor. Rather the sciences "involve dialogue," not as an "exchange between subjects, but explorations and questions whose stakes are not those of the silence and submission of the other" (Stengers 34). Yet I fear that dance may cease its own animations, dancing differently in the spectacles of science's powerful engagement lens. Will we be brave when we feel stupid? Did we invite scientists here to choreograph us?

Dance Engaging Science offers the opportunity to be self-critical about methodology: an opportunity to rework styles of thinking and modes of performing or communicating knowledge. I suggest a meta-focus on research itself: on creation, innovation, methodology, and sharing. The opposite would be taking existing resources, and in an exercise of creative management, seeing what can be done with expensive assemblies of brains and instruments.ⁱⁱ I ask what initial limitations, production structures, methodologies, and outcomes can make such an engagement meaningful work, not only political leveraging and entertainment. I question what type of collaboration to support: interdisciplinary, neodisciplinary, or perhaps even the passage from much to little collaboration.

I'm a skeptic, but deep at heart I feel the rupture between these disciplines as fertile: a place of innovative conflicts and productive controversy. I dream of neodisciplinary creation, a fantastical and surprising co-production that runs forward as critical adventure. What's important is the unimaginable; support only risk and relevance.

ⁱ Stengers, Isabelle. *Power and Invention: Situating Science*, Bains P (trans.), Minneapolis: University of Minnesota Press (1997)

ⁱⁱ In an email from June 7, 2011 Mårten Spångberg proposes, "When performance and artistic practice connect with science is basically only software, computers and brain something, it's never about doing science or research but about obtaining resources. If you are really interested in doing down the road of science you have to understand that the result will not be causally related to your artistic practice. The only option for science and art to engage in a productive relation is for both respective fields to give up their initial incitement and do something else. The central problem with such relations then is identity and the desire to belong to a community, which obviously is paradoxical

because the first reason to engage with e.g. science must be exactly to contest belonging and with it conventions and norms operating in a determined context.”