

Embodied Research: A Methodology

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The possibility of embodied methodologies is increasingly prevalent in the social sciences (Chadwick 2017), cultural studies (Francombe-Webb et al. 2014), and psychology (Brown et al. 2011). These proposals draw on a wide range of theoretical frameworks, from phenomenology to cognitive studies to qualitative research and beyond, and occasionally make reference to artistic research or performance/practice as research in the arts. As far as I know, no proposal for embodied research in the social sciences, humanities, or performing arts takes seriously the idea that areas and disciplines of embodied practice might constitute substantive epistemic fields in their own right.

The following methodology is based on the argument for embodied research put forward in *What a Body Can Do: Technique as Knowledge, Practice as Research* (Spatz 2015). That volume includes a range of scholarly, artistic, and practical references for the ideas discussed below. Here I attempt to offer a compact and accessible introduction to embodied research to support its implementation both inside and outside the university. The methodology is written in an accessible, second-person style. It is intended for embodied researchers at all levels and especially for hybrid practitioner-researchers and artist-scholars who come to academia with a strong background in embodied practice. I believe it offers an important complement to more discursively oriented proposals.

The methodology is organized in five sections:

1. Introduction to embodied research
2. Framing your project
3. Working with people, space, and time
4. Archives and documents
5. Criteria for assessment

1. Introduction to embodied research

What is embodied research? Both words require a bit of explanation—let's start with research. Research is a kind of search. The "re" indicates not just repetition but intensity and thoroughness. To research is not merely to look for something but to conduct a focused and systematic investigation. Research is a balancing act, poised on an edge between the specific and the general, the concrete and the

abstract, the repeatable and the unique. It can be figured as a kind of art, or even a dance, and in the examples considered here that is more than a metaphor. There is craft in research, and artistry. To be a researcher is to trace a new and narrow path. To find something new, one must be willing to encounter the unknown. But the unknown of research is not the unknown of everyday life. If I do not know your name, and I ask you for it, that is hardly research, even though I learn something I did not know before. If I am not sure when Frederick Douglass was born and I look up the date using a Google search, that can only be called research in a very limited sense. There are, in other words, different levels of research. When a student in primary school writes a research paper, the process involves at least a bit of the intensity and thoroughness mentioned above. But when a graduate student writes a doctoral dissertation or thesis, it has to involve research in a stronger sense. Making a contribution to the knowledge of an individual is no longer enough. Research in a strong sense contributes new knowledge to a larger community, an international network, a discipline or field of knowledge.

We have all heard of scientific research and the scientific method. If you are reading this article, you are probably aware of other research methods such as those used in the humanities and social sciences. Actually we are witnessing today an explosion of research methods and methodologies (theories of method). One of the reasons for this is that the university system, a hugely important institution for the support of research, is changing. Attendance in higher education has expanded massively over the past century. Universities are both more expensive and more diverse than ever before. The question of what the university needs to be in the twenty-first century is the topic of hundreds of books and articles. What is a university? Whom does it serve? What kinds of knowledge should it teach and what kinds of research should it support? To answer these questions, a host of new ideas about research have been proposed. By the 1980s, qualitative research was becoming accepted as a legitimate alternative to quantitative research. More recently there have been many attempts to define and champion methodologies with names like “action research”, “artistic research”, “practice research” and “performance research”. Each of these has its own

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sources in particular geographic regions and communities of researchers. Here I want to propose a methodology that is related to all of these, but distinct from them in the extent to which it prioritizes embodiment. For that reason it is called “embodied research”.

To distinguish embodied research from other kinds, think for a moment about the place of the body in other kinds of research. For the sake of illustration, picture a stereotypical mathematician, a biologist, and an archeologist, each at work doing research. What do they each do with their bodies during their specific research processes? Let’s picture the mathematician alone in her office, thinking. She taps her fingers on the desk, picks up a pen and puts it down again. She thumbs through a book, sketches an image in a notebook, jots down some figures. Mostly her body is quite still as she concentrates on the problem at hand. Alternatively, we might imagine her walking through a grassy field, not paying much attention to her surroundings because she is so focused on the mathematical operations going on in her head. She is trying to find a way through the numbers and lines and patterns, looking for a new way of examining an old problem. Her thinking is an embodied process, but very little of it is visible from the outside. She appears mostly still, focused, concentrated, perhaps distracted. Every now and then she grabs a pen or pencil or keyboard and sets down some new thoughts. These thoughts may come out in the form of words or drawings, but above all in figures: numbers, symbols, operators. It is in these figures that the content of the mathematician’s research finds its articulated form. These figures can be copied by hand, printed in a journal, or transmitted by email. Amazingly, another mathematician thousands of miles away can encounter a copy of those figures and experience all sorts of emotions: surprise, confusion, excitement, or even anger. All mathematicians have bodies. To be a person is to be embodied. But the facts and details of embodiment—the specific shape and capacities of a given body—are perhaps not very important when it comes to conducting mathematical research. In the end, it doesn’t matter whether our mathematician is sitting at a desk, walking in a field, lounging on a beach, or lying in a hospital bed. What matters are the figures she writes down and how they can be copied and shared.

Our biologist is in a laboratory working with cells. There is a lot of physical dexterity and embodied craft involved in this labor. Tiny splices must be made, cells dissected, chemicals arranged. The fingers of the biologist are experienced and skillful. This research is embodied in a very different way from that of a mathematician. But the skill of the biologist is not primarily intended to explore the possibilities of bodily movement. The biologist is probably not thinking about the movements he is making as he manipulates his laboratory tools. Instead, these detailed and precise movements are organized and determined by the technologies he uses. (One could say the same thing about a classical musician, whose body moves skillfully in ways intended to produce particular sounds

through a particular instrument.) The research our biologist undertakes is embodied in the sense that it involves a lot of embodied skill. But we can't call it "embodied research" because so much of the discovery process, so much of the potential for innovation, and so much of the value of the research is located not in the biologist's body but in the machines and technologies he uses. The microscope serves the eye, but in another sense the eye conforms to the shape of the microscope. Peering through a microscope opens new worlds to the eye, but these new landscapes do not then become accessible to the eye alone. Rather, they remain available to research only through the combination of eye and microscope, body and technology. If our biologist has students, he will teach them how to do research, and this will include passing along certain kinds of bodily craft. But if he doesn't also give them the keys to his laboratory, with its complex tools and technologies, then his students will be unable to continue the research on their own.

Finally, our archeologist: She is hard at work in a "dig", sifting through layers of sediment, uncovering ancient fragments of human civilizations that existed hundreds or thousands of years ago. Perhaps she is also examining the traces of natural environmental process: the build-up of different kinds of sand and dirt and stone, which indicate the weather conditions during particular historical time periods. Here again, tremendous embodied skill may be involved. As with our mathematician and biologist, a vast and specialized background in the knowledge of a specific discipline informs her work. The practice of digging and sifting is clearly embodied. Our archeologist gets wet, she gets cold, and at the end of the day she may have dirt under her fingernails. Yet once again we have to acknowledge that the focus of her exploration is not the potential of the human body to get wet, cold, and dirty. If she is a traditional archeologist, then her research is focused not on her own embodied practice but on the artifacts and traces and histories that this practice makes available. She may be fascinated by the objects uncovered, their shape and ancient pedigree, and their possible function in past cultures. She may be drawn to imagine those cultures and to think about how they related to her own. But unless she has engaged with some of the "new" methodologies mentioned above, she is probably not thinking all that much about the role of her own embodiment in the archeological process. Her embodied practice is an essential part of her research, but it functions instrumentally, as a kind of tool. The purpose of the "dig" is not to explore embodiment, even if embodiment is one of the technical conditions for digging.

For each of the researchers just mentioned, the body is treated instrumentally, as if it were transparent. Through embodied processes of thought and action, these researchers encounter their objects of study and fascination: the abstract patterns of mathematics, the organic processes of biology, and the lingering artifacts of history. Are there any fields of research in which the body itself—embodiment, the experience and material fact of having a body—is the central

object of fascination and study? How about medical science? It is true that medicine studies the body. But if we think about the research methods of medicine, they are quite similar to those of the biologist described above. The object of study may now be a human being, but the medical researcher is in a similar position as the biologist with respect to the object of study, especially when technologies—whether a small stethoscope or a large MRI scanner—are used as tools to make the patient’s body available to the doctor. Some doctors almost never touch their patients. They act as if their doctor-bodies are unrelated to the technology-centered provision of medical care. But there are other kinds of doctors and caregivers who work with patients through touch, and here another world opens. In the exchange of touch between the giver and recipient of care, we encounter an area of research that is “embodied” in a different way. A physical therapist or osteopath works with bodies not through technology but through direct embodied contact, through an embodied practice of healing. The same could perhaps be said of a psychotherapist, whose research is based on a particular kind of contact with a client. In conventional psychotherapy this contact is verbal, but the physical presence of the therapist is nevertheless essential. In other kinds of psychotherapy that contact may be embodied in other ways: danced, performed, vocalized, or even through touch. This is embodied research.

The question asked by embodied research is: *What can bodies do?* Asking that question doesn’t mean that technology has to be excluded altogether, but it does mean that the primary objects of investigation are the possibilities and potentials of bodies, individually or together. Of course, a living body can never be isolated from its environment, so there can never be research that is 100% embodied. But in many forms of research, as noted above, the body is treated as if it is transparent or secondary, a necessary condition of research but not an area of investigation in its own right. In today’s world, a huge amount of time and energy goes into exploring and expanding the potential uses and operations of the materials that we use to build new technologies. Technological research asks: *What can metal do? What can plastic do? What can electricity do? What can lasers do? What can networked computers do? What can hardened steel do? What can ultralight fabric do? What can fiber optics do?* Other branches of research, which we might call discursive, ask questions about the potentials of writing and printing systems: *What can written narratives do? What can poetry do? What can mathematical figures and symbols do? What can musical notation do?* Some of these questions are very old, but embodied research is older than all of them. Embodied research asks questions like: *What can voices do? What can fingers do? What can bodily rhythms do? What can sensitive listening do? What can unison movement do? What can storytelling and role-playing do? What can precise skeletal alignment do? What can intensive daily training do? What can aerobic exercise do? What can relaxation and meditation do?* Technology may be involved in the measurement of embodied research, the writing down of relevant

ideas, and the dissemination of results. But the research itself, the processes and practices of repetition and discovery, are embodied.

The boundaries of embodied research are fuzzy, like the boundaries of any research field. In defining the field, it is usually better to emphasize focus rather than exclusion: Embodied research puts the focus on the body rather than on technologies. It does not exclude technology, but its spotlight is on embodied rather than technological possibilities. There are fuzzy boundaries between human bodies and other animal bodies, as well as between human embodiment and the natural ecology that sustains it. Is it “embodied research” if a human works closely with dogs or horses or monkeys to discover mutual possibilities across species? Does cooking with organically grown vegetables, or healing with natural herbs, count as embodied research, since after all it does not involve any advanced “technology”? These important questions go beyond the scope of this methodology and must be left for another time. Here I am not concerned with the boundaries of embodied research, especially where it borders on interspecies and ecological practice. The more important and more difficult move, for those of us now living in technologically saturated environments, is to recognize embodied research as a valid field of inquiry alongside the many existing disciplines of technological research. Such a sea change cannot happen all at once. It requires a great diversity of people and projects, all coming at embodied research from different angles. Each project of embodied research must develop its own approach to suit its area of inquiry. Because of the diversity of embodied research, I cannot offer a concrete list of methods for you to follow. Instead, what you will find here is a broad discussion of embodied research methods—a methodology.

2. Framing your project

Try this: Choose a type of embodied practice that you might want to investigate and write a detailed description of it. This could be any kind of practice in which the movement, vibration, sensation, or activity of your or another person’s body is central. Some examples are sports and martial arts, training for physical fitness, singing and dancing, giving or receiving massage, engaging in heated debate or conversation, telling or acting out stories, enjoying sensual or sexual touch, reciting poetry, and meditating. (It could even be a practice in which technology is centrally important, but you will focus on the aspects of it that are embodied. For example, what is involved in the embodied practice of driving a car or riding a bicycle, apart from the differences between the vehicles and the geographical distances they cover?) This practice might be undertaken in a gym or studio, on a small or large stage, in a classroom, in a temple or other religious setting, on a street or public square, or in your own home. All you need for now

is a starting point: a description of the kind of embodied practice that you want to explore. Try to describe it in as much detail as possible.

When we want describe the various kinds of things that we can do as human beings with human bodies, it can be useful to distinguish between *practice* and *technique*. For our purposes here, practice will refer to actual concrete examples drawn from human life and activity. A practice is always located in a specific time and place and enacted by particular individuals or groups. Think about the many embodied practices that have made up your day so far. What did you do first when you woke up? What and how have you eaten? How have you used your voice today? Have you walked somewhere or traveled by other means? Have you interacted with other people? Are you standing or sitting right now as you read this? Each of these specific actions from your day counts as a moment of practice. Your whole day is also an example of practice. For a historian, your whole life so far might be counted as an example of practice, or the lives of everyone who currently inhabits your country or town. Practice is a fundamental concept of embodied research, but it is not repeatable. Each moment of practice is unique. To begin framing a research project, we therefore need to distinguish practice from technique. In this context, technique refers to the knowledge that links one practice to another. The most important feature of technique is that it is repeatable. Thinking about technique allows us to compare different moments of practice with each other. Do you do the same thing every day when you wake up? Do you always eat or speak or sing in the same way? Do you always travel or read in the same physical position? Does everyone in your town or country eat or speak or travel in the same way? All of these different “ways” of doing things are what I am calling technique.

Now, take a look at your description of a type of embodied practice that you may want to explore. Perhaps some of what you have written refers to specific times, places, or people. You may have referred to yourself, or to someone you know, or to a well-known practitioner such as a musician, performer or athlete. You may have referred to a particular location such as a gym you attend, a city that you like to visit, or a location that interests you. Or you may have referred to a specific time, such as yesterday or next year. These are all important details pertaining to a specific embodied practice, but they are not repeatable or transferable. You cannot switch bodies with someone else, or exchange two locations with each other, or rearrange time. These details describe embodied practices, but they do not describe types or kinds of practice. In other words, they do not describe the repeatable patterns of embodied technique. Now go through your description and see if you can find all the words that refer to embodied technique. These are things that can be moved across time, space and bodies while still retaining their basic structure. Some simple examples mentioned above are ways of eating, speaking, singing, traveling, and reading. To eat with a knife and fork, to speak English or Spanish or Chinese, to sing with a strong nasal reso-

nance, to travel by walking or in a wheelchair or a bus, or to read while sitting or standing or lying down—these are all examples of technique. When distinguishing technique from practice, a key question to ask is whether something can be taught. Ways of doing things—languages, styles, manners, gestures, postures—can be taught and shared between people and cultures. This is what makes them technique and it is these kinds of things into which we can conduct embodied research.

The next thing to notice about describing and framing an area of embodied technique is that the language you use to do so will depend on the context in which you are developing your project. That is because the same term can refer to different technique in different contexts. Even more commonly, the same area of technique can be treated as fairly small in one context and as much larger in another context. Here is a partial list of areas of embodied technique that are currently being offered by theatre and dance studios, gyms and health centers in and around New York City:

Fitness Training, Cross-Training, Aerobics, Basic Military Training, Kickboxing, Karate, Jujitsu, Aikido, Taijiquan, Ashtanga Yoga, Iyengar Yoga, Alexander Technique, Feldenkrais (Awareness Through Movement), Rolfing (Structural Integration), Pilates, Zumba, Five Rhythms, Basketball, Football, Tennis, Ballet, Modern Dance, Graham or Cunningham Technique, Bharata Natyam (Classical Indian Dance), African Dance, Authentic Movement, Contact Improvisation, Jazz, Tap, Hip-Hop, Clown, Trapeze, Comedy Improv, Meisner Technique, Dance/Movement Therapy, Meditation.

Notice that it is only the specific cultural context of twenty-first century New York City that allows this set of items to be placed alongside one another as if they were all of a similar size. If one were to make a similar list today in Beijing, the number of items associated with Chinese martial and healing arts would probably be much greater. Taijiquan might not be listed as a single item but as several different areas associated with different families or schools. On the other hand, the distinction between jazz and tap dance, or between fitness training and aerobics, might not be significant. If one were to make a similar list in Johannesburg, the category of “African Dance” would be absurd. Likewise, if one tried to catalogue the main types of embodied technique being practiced in New York City at the beginning of the twentieth or nineteenth centuries, that list would be radically different from the one above. Defining your area of inquiry therefore depends on the context in which your research will take place.

What kind of language did you use to describe the area of technique that interests you? Did you refer to specific body parts, such as the feet or spine, or to aspects of physical embodiment, like the breath or the voice? Did you refer to large general concepts such as rhythm, movement, or storytelling? Did you men-

tion the names of particular teachers or practitioners with whom you have worked or by whom you have been influenced? Did you employ any “technical” terms—words or phrases that would only make sense to people who are familiar with the same kinds of embodied practice as you? All of these are valid ways of framing an area of embodied technique for the purpose of research. Since there is no established formal method for such framing, you will have to combine these different strategies in a way that suits your project and the community of knowledge (such as an academic field or discipline) within which you are working. Different languages exist to describe the various types of technique that structure embodied practices of dance, song, acting, storytelling, martial arts, sport and fitness, religion and ritual, family life, somatic bodywork, expressive arts therapy, teaching, and much more. In many cases these areas of technique overlap, for example when singing is religious or when family bonds are created by playing a sport together, or when pedagogical technique is applied to the teaching of dance. In general, creating a frame for your research project will involve a process of narrowing down from larger and more inclusive areas to smaller and more narrowly focused ones.

There are some basic areas of embodied technique that can be studied across history and around the world. These are core areas of human practice like movement, rhythm, touch, song, speech, storytelling, combat, sexuality, gesture and facial expression. Each of these can be broken down into smaller elements of analysis and many technical systems exist for doing so. The researcher can then refer to specific parts of the body using anatomical language (muscles, bones, body systems); to musical structure using the tools of western musical analysis (rhythm, harmony, keys or modes, types of song); to qualities of movement using a system of movement analysis (such as the effort categories of Rudolf Laban). It is important to recognize that there is no permanent or universal set of elementary categories of embodied practice. Any such list is culturally situated and grounded in a specific history of practice. The examples just given all rely upon the English language and therefore assume a particular cultural and linguistic history. One cannot speak of “movement” without invoking the particular connotations of that word in English. To draw distinctions between song and speech, or between music and dance, is already to situate oneself within a particular cultural context. This is inescapable and need not be considered a problem, as long as we don’t start to imagine that we are describing permanent, universal categories of embodiment. In fact, a word that is originally conceived as a universal category may later come to refer to something much more narrow—as with terms like “ballet” and “bel canto”, which can be translated simply as “dance” and “beautiful song”, but which now in English refer to much more specific genres of performance. The relationship between a word and the practice it names depends greatly upon the cultural context in which it is used.

Vast areas of practice like movement and rhythm are probably too large to serve as frames for specific research projects. Categories like ballet or aikido are more specific, but further detail will almost definitely be needed to support a concrete project of embodied research. Let us now consider some of the ways in which language, however imperfectly, can be used to further specify an area of embodied technique for investigation. These include specifications based on exactly those aspects of practice that I previously said do not count as technique because they are not repeatable or transmissible: specific places, times and people. However, in the present context we are no longer talking about places, times and people in and of themselves. Rather, we are looking at cases in which the names of particular locations, eras and individuals actually changes their meaning so that they no longer refer to those specific contexts of practice. Instead they become technical terms that refer to areas of technique. This happens precisely when it becomes possible for the technique to travel beyond the place, time or body after which it is named. Beijing Opera, Bulgarian folk song, Balinese dance, and West Coast hip-hop are named after specific cities, countries, or geographical regions, but as embodied technique they can now be done in other places as well. Likewise, when one stages ancient Greek dramas, sings medieval European chants, or talks in the “style” of 1920s Chicago, one is creating a technical bridge between historical and current practice. In some cases it is not clear whether a term has become technical, or to exactly which technique it refers, and this may be the site of cultural or political struggle over which practices count as legitimate.

Language is constantly shifting, as the “proper” names of places and individuals become detached from their specific geographical and historical origins and begin to circulate as technical terms that refer to areas of repeatable technique. The transformation of a proper name into a technical term is a double-edged sword: It allows the referenced technique to travel great distances, but it also detaches that technique from its point of origin. This issue can be particularly thorny when an area of embodied technique becomes associated with the name of an individual who was important to its development. There are two main ways in which this happens: officially and unofficially. The official ones are at least superficially easier to deal with. In these cases there is an existing institution, either established or approved by the named practitioner, that determines the boundaries of the named embodied technique. This is the case with Bikram Yoga, which can be defined through reference to the organization Bikram, Inc., which is run by Bikram Choudhury, after whom the technique is named. Any teacher who claims to teach Bikram Yoga has a legal obligation to train and register as a franchise of that organization. This does not solve the larger question of how to fairly attribute traditions of embodied knowledge, since the technique Choudhury himself invented is just a small part of what Bikram Yoga studios teach. But it does mean that, if one wanted to conduct a project of embodied re-

search in modern postural yoga, the existing practice of Bikram Yoga could serve as a useful reference point. One can establish one's qualification to teach Bikram Yoga through a clear-cut process and could proceed on that basis to conduct research in that area of embodied technique.

Another example of an institutional lineage is aikido, a Japanese martial and spiritual art developed by Morihei Ueshiba in the 1920s and 1930s. There is an official aikido organization in Japan called the Aikikai Foundation, which is currently run by the founder's grandson. However there also are numerous other independent aikido organizations operating in Japan and around the world, many of them founded by students of Ueshiba. A project of embodied research beginning from aikido would therefore need to specify which lineages of practice define the area in which investigation will take place. If aikido were called "Ueshiba style" then its official legacy might have more prominence, since the founder's grandson carries the family name. But the name "aikido", which can be translated as "way of unifying the spirit", suggests a more open-ended tradition. It may be that Ueshiba aimed intentionally to disassociate the technique he developed from his personal identity, just as the Russian Vsevolod Meyerhold did not call his training method "Meyerhold technique" but rather "Biomechanics". However, the wishes of founding individuals are not always followed in this respect. The embodied technique of "contrology" is now much better known by the name of its founder, Joseph Pilates, than by the term he coined for it. And while some named areas of technique require certification to practice, anyone can legally claim to teach Pilates in the United States. There are many layers to unpack when it comes to the naming of embodied technique, including the wishes of key individuals, the existence of official organizations, contested lineages, and the legal status of the name as trademark.

Yet however important the ethics and politics of naming may be, what we are really interested in is the details of the practice itself, the detailed and layered embodied technique that structures it. Even where official lineages and institutions do exist, they are almost invariably outnumbered by unofficial lines of practice and mixed up with numerous "invented traditions" that may have little to do with the practices that originally went by that name. Most practitioners do not leave behind an intact system of inheritance or certification, leaving the question of how to use their names up to subsequent generations. And of course, the more historically distant a founding practitioner is from the present, the less likely you are to find an unbroken line of transmission and the more likely even unbroken lines are to have changed substantially. It is possible, using historical research methods, to attempt to reconstruct the embodied technique of the past. (This is the idea between the "original practices" movement in music and theatre.) But the historical evidence is so threadbare that it invariably requires supplementation from modern technique, which must be made explicit. One can attempt, for example, to explore the acting technique of Shakespeare's day, as

long as one acknowledges the extent to which twenty-first acting technique will necessarily inform the research. To avoid doing this is as dishonest as failing to cite a textual source.

In specifying the focus of an embodied research project, you should use all the tools and strategies available. Words that are normally associated with geographical locations, historical eras, and individuals may in this context be used as technical terms—so that Bikram, Meyerhold, and Pilates refer not to people but to areas of technique. A crucial bridge between these kinds of naming strategies and your intended research project will be those individuals and organizations that have directly shaped your own practice. Their names may not be widely known or employed as technical terms, but they are equally essential when it comes to placing your research within a larger context. Whether your encounters with these living or recently deceased practitioners were brief or sustained, direct or mediated, they function as a crucial bridge between the generic and technical terms discussed above and the details of your own practice. Clearly, the absorption of knowledge that takes place during a ten-year apprenticeship is on a very different scale to that of a 500-hour teacher training, which again is more substantial than a five-day workshop. Such quantitative information must be included in framing your research. Yet these numbers do not necessarily indicate the extent of a given encounter's impact upon your own practice. After a long apprenticeship in one area, a brief meeting with a different approach could radically transform your practice. The goal in framing your project is to provide a clear account of your sources and the nature of your contact with them, framing and explicating your own embodied knowledge and the area you want to research.

These are just some of the ways in which an area of embodied practice can be specified for the purposes of research: large generic categories like movement or rhythm, dance or martial arts; regional and cultural traditions or schools; smaller named traditions like aikido or break-dancing; narrow technical terms, such as the names of particular exercises or isolated techniques; the names of key founding individuals, which have now been transformed into technical terms; and references to the teachers and peers whose practices have directly influenced yours. The important thing to remember is that all of this descriptive language provides an essential context for what you intend to do. In many academic fields, the context of a research project is established through what is called a "literature review", a survey of relevant writing that defines the context out of which the project will unfold. Embodied research projects should contain a literature review of this kind, but they also need to develop a strategy for "practice review" that cites non-textual sources. A practice review is not a catalogue of everything you have practiced. Instead it is a kind of map, a charting of those areas of practice that most significantly intersect with and inspire your research. In addition to the kinds of technical references discussed here, this will

almost certainly include practitioners of your own generation who are doing work that is similar but not identical to your own. In this way you can establish a contemporary, dynamic context for your research, as well as looking backward to the sources of your knowledge. Undertaking a thorough review of relevant practice will also help you to establish the proper scope for your project. Just as a ten-page essay requires a much narrower focus than a book, a week-long embodied research assignment will explore a much smaller territory than a project involving three years of full-time practice. No one can research and write an entire book in one week. (Some books take twenty years to write!) Depending on your circumstances, you may be able to choose the size and duration of your project based on what you want to investigate. More likely, you will have to make the scope of your inquiry fit the resources available. Choosing the right scope is therefore one of the most important steps in developing a research project in any field.

Before going on to consider the nuts and bolts of embodied research, it is worth mentioning another way of thinking about how academic research might be framed in academic settings. This consists in drawing upon critical theories from fields like philosophy, cultural studies, performance studies, and cognitive studies in order to provide further grounding for research that takes place through embodied practice. This kind of contextualization can be extremely valuable because it offers a much wider perspective than can be found within any particular lineage of practice. For this reason, if you want to investigate performance technique, you should also read works of performance studies. If you want to expand martial arts practice, you should engage with cultural studies, sport studies, and the emerging field of martial arts studies. If you are interested in the relationship between specialized embodied practice and everyday life, you may want to undertake readings in cognitive studies or phenomenology. Such interdisciplinary approaches have been given a great deal of priority in earlier models of practice-based academic research. Yet these scholarly fields are importantly distinct from those of embodied technique and, as valuable as they may be, they cannot replace the kinds of framing strategies outlined above. A critical or philosophical analysis may be a useful supplement to your project, but it cannot replace a detailed account of the technical structure of your practice. References to performance studies or cultural studies cannot substitute for a comprehensive practice review. In framing embodied research, critical and philosophical references are optional, while technical references are essential. This is because embodied practice derives its structure and meaning primarily from lineages of technique.

3. Working with people, space, and time

Scientists working in high-energy particle physics build multi-billion dollar machines to detect the subtlest of patterns among the smallest units of matter. Researchers in the humanities, on the other hand, traditionally work alone using only books and notebooks (and more recently computers) as their tools. Embodied research has its own requirements, of which the three most fundamental are *people, space, and time*. The exact configuration of these three crucial resources depends on the nature of the project. More feasible projects may rely heavily upon one of these resources and only minimally upon the other two—such as a project that requires a hundred people to gather together, but only for an hour or two and in any old place; a project that must take place in a rainforest or in Antarctica, but which requires only a few people to go there for a few days; or a project that requires hundreds of hours of practice, but which can take place in a classroom and involves just one or two people. When resources are more generous, there is no reason why projects cannot be developed that rely upon considerable resources in two or even all three of these categories. When we think of the major historical embodied research projects that gave rise to the kinds of innovation mentioned in the previous section (performing arts, martial arts, postural yoga), they very often relied upon a substantial group of people working together in a tailored and appropriate space over a period of years or decades. Embodied research projects can be undertaken with very limited support, but where possible they can also make excellent use of more extensive resources.

A great deal can be accomplished through solo embodied practice. There are many stories, both mythical and historical, about the founders of lineages of practice spending years alone in rooms or caves or deserts, developing innovative technique that would eventually come to have profound social and cultural influence. Working alone is financially and logistically simple and avoids many of the interpersonal and ethical issues that can arise with larger groups. It is therefore worth asking yourself whether your research can be enacted first and foremost through your own solo embodied practice. Can you go into a room and practice the embodied technique you want to explore? Do you have the stamina to sustain this practice for as long as may be required to produce new pathways of practice, to discover new technique? Solo embodied research may seem daunting and it is true that working alone can require a high degree of patience, self-acceptance and courage. Yet there is no need to exaggerate the loneliness of such an approach, for the solo embodied researcher does not work in a vacuum. Even when alone in a room, the voices and impulses of one's teachers and other influences are always present. While these may at times be critical, blocking one's sense of freedom to experiment, there is much to be learned through a dialogue with absent masters. Nor does solo research have to take place in an empty chamber. The technique under investigation could involve hiking in a forest,

walking through a city, or even attending social events. It may be exposed through public performance or a series of intimate encounters. The solo embodied researcher need not be lonely, if conditions are set up to enable the continual sharing and testing of the newly developed technique in social, interpersonal, and ecological contexts.

There are many kinds of embodied technique, however, which cannot be explored by a single person. Vocal harmonies, polyrhythms, weight-sharing and other kinds of physical partnering, spatial choreographies, the dynamics of combat and competition, and the performer/director relationship all require at least two people working together. Depending on the musical, spatial, interactive, narrative, physical and conceptual dynamics of the technique you are exploring, it may be necessary to bring three or five or sixty people together in a shared space of practice. A larger number of practitioners brings increased vital energy to the research. However, it also introduces a number of ethical considerations that must be faced. The diversity of such situations is too complex to fully address here, but it is worth noting some of the main ethical considerations that may arise. First and foremost is the distinction between participation and authorship in embodied research. There is no reason why two or even ten people cannot undertake a project of embodied research together, each providing their specific expertise and all together taking responsibility for the shaping of the project. To support smooth collaboration, it may be helpful in such cases to agree upon a clear division of tasks and labor at the outset. As a rule, authorship implies the right of approval over published documents, so any publication process is likely to be slower and more complex when more authors are involved. For this and other reasons, one or two individuals may wish to retain the rights and responsibilities of authorship for a given project, inviting others to participate in it without becoming co-authors. Great care must then be taken to ensure that non-authorial participants are aware of the parameters of the project, have the freedom to leave at any point, and receive appropriate benefits from their involvement.

Many embodied practices involve the potential for some kind of suffering, pain, or injury, whether this comes through emotional exposure or physical exertion. When undertaking solo embodied research, it is sufficient for the practitioner-researcher to weigh the risks and benefits of conducting the research. This equation is riskier and the stakes higher when non-authorial participants are involved. Differential power dynamics are an inherent aspect of all human relations and must be considered with great care in the context of embodied research, especially where academic or other institutional support is involved. A great deal has been written about the ethics of sociological, psychological and anthropological research involving human participants. Most academic institutions have established ethical guidelines and review policies to prevent exploitative research from taking place. However, it may not always be clear how such

policies relate to embodied research projects. For example, while interviewees from outside the university are considered “human subjects” for the purpose of ethical review, professional performers and practitioners may have a more ambiguous relationship to the research. Generally speaking, any participant who does not have full authorial and collaborative control over the project ought to receive the kind of protection from exploitation that research ethics policies are designed to ensure. On the other hand, the direct application of ethics policies designed for social science to other kinds of research may not always be feasible or wise, since the nature and meaning of “participation” varies greatly in different contexts of embodied practice.

The initiators of any embodied research project involving non-authorial participants (any participants who are not going to be credited as authors) should carefully consider the recruitment of participants and the precise extent of their involvement. Ethical risks are present both in the research practice itself—what will the participants be asked to do?—and with regard to any publications that come out of it. Which aspects of the research practice come under scrutiny may depend upon its disciplinary context, for example which departments or funding agencies are supporting it financially or otherwise. Anthropologists and ethnomusicologists have grappled extensively with power differentials and cultural difference in the ethics of doing ethnography. Psychologists and sociologists may be more concerned with the effects of the research upon individual participants and with what it means to establish informed consent for a project that involves elements of secrecy or deception. Performers and professional teachers of embodied practice will often have very different concerns in mind, such as the need for skilled participants to receive appropriate financial reward and to be properly credited in publications. All of these concerns—social, cultural, psychological, economic and more—are appropriate to the ethical analysis of embodied research and must be dealt with by any project that involves non-authorial participants. Such participation must be negotiated in advance and every attempt should be made to respond to the concerns not only of the participants but also of the relevant disciplinary conversations pertaining to academic ethics. These are serious concerns, but they should not scare you away from working with people! If you are an embodied practitioner, then you have most likely already faced some of the ethic questions raised by your practice. You may then need to extend these considerations to suit the academic context of your research.

In addition to people, embodied research requires a space or spaces in which to take place. A key environment for much embodied research is the “empty space”, a laboratory in which all or most objects have been removed in order to allow for a specific focus on embodiment. There are many ways in which empty spaces differ from each other depending on their intended uses and which should be considered when choosing a location for embodied research. The most obvious of these is the size of the space, which can range from a small room that

fits just a few people to a large hall that can accommodate hundreds. Although most university spaces are roughly rectangular and build according to straight lines and right angles, other interior spaces may be circular (yurt) or conical (tipi) or have other architectural features. Spaces designed for imaginative practice, such as theatre, tend to have plain walls and no windows, to support the free flow of associations. Other spaces may have windows that look out onto urban or rural landscapes. Spaces designed for visually-oriented practices, such as theatrical dance forms, may have large mirrors installed so that practitioners can watch their own reflections. The properties of the floor—whether it is made of wood or concrete or dirt, or covered in carpeting—can have a substantial impact upon embodied practice. The material from which a space is built also affects its acoustics, the way sound is carried. This is obviously important for practices involving song and speech, but it can also have an impact on even the most silent practices because different spaces produce different qualities of silence. The aesthetics and history of a space, even if they do not directly affect practice in material ways, can nonetheless be important factors in the research process. To carry out research in a majestic church, a clean classroom, or an abandoned hospital is to bring one's embodied practice into contact with the atmospheric qualities of that particular space.

Empty spaces are important laboratories for embodied research, but such research can take place in just about any kind of space. While the focus of embodied research is on the possibilities of embodiment, these possibilities may be profoundly informed and enabled by particular spaces. Financial restrictions may well prevent one from developing a research project that can only take place in an Olympic stadium. (Although the Olympics themselves are of course research projects of precisely this kind, requiring extraordinary funding to construct the spaces that support their investigations at the limits of human athletics.) In many cases the most feasible academic research projects may be those that can be accomplished within existing university spaces such as classrooms, rehearsal rooms, performance venues, gyms, or health centers. In urban environments, fitness and martial arts studios, as well as theatre and dance rehearsal spaces, may be available for hourly rental, each offering particular advantages and limitations. Community centers typically have large open spaces that can be used for embodied practice when other activities are not scheduled. Rural arts and cultural centers may offer a very different range of indoor and outdoor enclosures. All spaces, whether natural or constructed, offer distinct possibilities for embodied practice. What kinds of practice can be developed on a beach, in a forest, on a busy street, or in the desert? The construction of space would not be the primary focus of an embodied research project, but it could well be an essential condition for the practice. Alternatively, testing one's practice across a range of different spaces could be a useful way of clarifying its structure and meaning.

Time, in the sense of duration, is another crucial and sometimes underestimated dimension of embodied practice. One of the most important parts of designing an embodied research project is making a realistic assessment of what is possible within a given time frame. How many hours of focused embodied practice will be required to develop genuinely new technique, new ways of doing things, in the area you have specified? Can you work just a few hours each week for several months, or do you need to be engaged full-time for an intensive period? How often do you need to have access to a specific laboratory or workspace? For how much time do you need the participation of other practitioners? Can the practice take place at any time of the day or year, or are there constraints with regard to when it is done? These are questions of scheduling, of when to do things. They must be addressed in the design of your project, but they should also be left open to some degree. In research, it is rarely possible to predict with total accuracy the length of time that will be required for a given investigation. An area of practice to which you intended to devote just a few hours may turn out to be so fascinating and fruitful that you spend days or weeks exploring it. By the same token, an area for which you have scheduled a great deal of time may shortly turn out to be a dead end. Questions of scheduling should be examined in the context of the overall size of your project. A typical undergraduate assignment lasts a couple of weeks or months. A research project at the master's level typically takes one or two years, while a doctoral research project may take anywhere from three to six years or even longer. The overall duration of the project, combined with your access to people and space, will determine the scope of your investigation.

In an embodied research project, at least these three kinds of resource—people, space, and time—come together in practice. Surprisingly, there is no generic term for a repeatable structure of embodied practice. Dancers speak of choreographies and structured improvisations; musicians and actors of scores; coaches and healers of exercises and sequences; athletes (and others) of games; spiritual leaders of rituals and calendars—but there is no word for the general phenomenon of a repeatable pattern of practice. Some scholars use the word “performance” for all of these things, emphasizing their function as social and cultural communication, but many important patterns of practice are solitary or private affairs. For this reason I use the phrase “practice structure” to refer to any repeatable structure of practice. Thinking of choreographies, scores, structured improvisations, exercises, sequences, games, and rituals as practice structures allows us to move more easily across these disciplinary boundaries. It also allows us to develop embodied research projects without having to define the genre or category of our practice—whether dance, theatre, or music; martial, healing, or performing arts. Such distinctions are historical developments attached to technical choices that support the development of specific kinds of practice structure as opposed to others. The most innovative embodied research

projects are often those that combine elements from different genres within a new and innovative practice structure. Such combinations are limited only by matters of technical compatibility, not by the boundaries of genre or style, and must be discovered and developed through embodied research. More than the body itself as a physical object, the practice structure is the focus of embodied research.

The enactment of a practice structure brings together people, space, and time. Although a practice structure is concretely enacted by specific individuals in a particular location and historical moment, the structure is by definition repeatable and transmissible, which means it is not limited to any one event. A given practice structure will require a certain number of participants (solo, duo, trio, or a larger group), a certain kind of space (a dance studio, a grassy field, a stadium, etc.), and a certain duration (five minutes, three days, one year, etc.), although these parameters may be precisely specified or left relatively open. In addition to these essential elements, a practice structure may require specific objects that support the practice, such as boxing gloves, yoga mats, or special dancing shoes. In embodied research, such “props” exist to serve the embodied practice. It is difficult to say more about practice structures because their tremendous variety is the basis for the diversity of embodied practice. Once one begins to specify in greater detail how a practice structure is developed, one begins to invoke a particular genre or category of practice. Differences between dance and theatre, performance and game, or ritual and therapy, are based upon different ways of building and specifying practice structures. Beyond the layers of shared technique that define these general categories, more subtle differences appear, which may come to define distinct schools or styles of practice. Debates over the role of theme and variation in dance choreography or musical composition, over which version of football rules to play by, or over which songs to include in a religious service, all revolve around the creation and transformation of practice structures.

4. Archives and documents

A physical archive is a library or collection of physical documents: books, journals, typewritten or handwritten manuscripts, letters, photographs, and ephemera. More and more often today we access online or digital archives alongside or instead of physical ones. Abstractly, *archive* can refer to all the physical and digital materials that define an area of knowledge. Unlike a physical archive, the general archive of a field or discipline does not have distinct borders. In fact, part of what sustains a field is the ongoing debate over what is and is not included in its archive—what counts as relevant to whom. There is also a more general debate over what kinds of things can be part of a scholarly archive. Can a photograph be part of an archive in the same way as a written document? What

about a live performance or a piece of software? Yet one thing is clear: A scholarly field or discipline needs an archive. A field of knowledge without an archive is an oral tradition rather than a scholarly field. Such traditions can be of great value, but they lack a particular feature that comes with the cultivation of an archive: the ability to compare what people are thinking and doing here and now with material traces of what has been done elsewhere and in other places. The relationship between an archive and a living community of knowledge is the basis for an academic field. Academic archives of embodied practice already exist in theatre, dance, and performance studies, anthropology and cultural studies, music and ethnomusicology, religious studies, and other disciplines. However, they are often segregated according to disciplinary boundaries, so that a theatre or dance scholar may not be aware of closely related materials in anthropology, or a sociologist of the body may not be aware of related materials in religious studies. Increasingly, the digitization of archives makes their boundaries more porous, and interdisciplinary embodied research may draw upon all of these fields.

A scholarly project of embodied research should make a contribution to an archive. The form this contribution takes will depend upon the nature of your project, but the essence of scholarly research is the obligation to leave a trace or record of your investigative practice for others with whom you may not have personal contact. Someone living thousands of miles away might be interested in what you are doing, even if you never have the chance to meet in person. And although it may be difficult to imagine, someone living hundreds of years after your passing might have something important to gain from the traces of your practice. As opera director Peter Sellars likes to point out, the Roman poet Boethius wrote *The Consolation of Philosophy* while in prison and was brutally executed before that writing was published. Fifteen centuries later, his is “the only book written in the fifth century that is available in paperback” (2002: 144). The point is that we have no idea how the traces of our work may affect the people of the future. It is a basic obligation of scholarly research to leave behind carefully constructed documents that make knowledge and practice available to others across potentially vast distances of time and space. Today there are more ways of producing such documents than ever before and the sheer size of the archive is growing exponentially. The internet contains exponentially more writing than all books ever printed, not to mention still images, sound recordings, and other forms of document. This opens up exciting new possibilities, but it also poses considerable problems for the researcher when it comes to searching and cataloguing such a flood of content. At the same time, some of the basic challenges involved in the passage from practice to document have scarcely changed since the earliest documentarians inscribed their paintings and symbols on cave walls and scraps of papyrus. We will now consider two major approaches to documenting embodied research: writing and multimedia.

It is impossible to overstate the importance of written notation in the establishment of disciplinary and scholarly knowledge. When theorists refer to the university as “logocentric” they mean that its entire institutional approach to knowledge and research is based upon transmissible documents, primarily in the form of written texts. In the sciences, mathematical notation makes the transmission of knowledge possible at an unrivaled level of quantitative precision, while musical knowledge in the European tradition has for centuries been based on its own standardized notation system. None of these notation systems are historically stable or culturally uniform. The most obvious differences are those between spoken languages such as Chinese, Spanish, and Nahuatl. Within each of these are dialects and styles, many of which can be captured through forms of notation. In some cases very different languages are customarily written using the same basic alphabet, such as English and Spanish or Yiddish and Hebrew. It may also be possible to transcribe the same spoken language in different ways. Textual notation systems work in various ways to capture the complexity of spoken language. Some are based on roughly phonetic alphabets while others use written symbols to represent a mixture of sound and meaning. Mathematical and musical notation also varies across time and region, with key notational innovations—such as the introduction of a numeral to represent zero, or of a staff of lines to specify differences in pitch—transforming the relationship between practice and document.

While the extraordinary power of notation allows us to conceive of concepts as existing outside our bodies in the form of transmissible documents, we should not forget that every notation is first of all a kind of technique. Notational technique has a special relationship to embodiment. It is not itself “embodied technique” because it necessarily relies on some form of technology to produce a relatively stable document, whether ink on parchment or a computer file. But as a result of such notational technologies, we are able to come into indirect contact with the embodied practices of people who lived long ago or far away. Textual, mathematical, and musical notation are extraordinarily good at capturing particular aspects of spoken language, quantitative calculation, and the crafting of sound. Yet none of these systems can entirely represent the embodied technique of speech, mathematics, or music. Some areas of embodied technique have proven more difficult to notate than others. For example, it is easier to write down the words people speak than to notate the way in which those words should be pronounced, let alone the tonal and rhythmic variations that contribute to spoken meaning. Similarly, despite many valuable attempts, no form of dance notation has been able to systematically represent physical movement with the degree of precision and complexity achieved by musical notation. There is no fixed relationship between embodied practice and notational technique. In producing documents out of embodied research, the question always has to be asked: Is

there a form of written notation that can be used to represent or trace important aspects of the embodied technique being explored?

Because of its incredible range of expression, and its central place in academic research, it is worth dwelling for a moment upon textual notation and considering some of the ways in which written language can be used to describe and analyze embodied technique. Two of the main approaches to this task are the technical manual and the practitioner narrative. A technical manual attempts to give a comprehensive, birds-eye view of an area of technique by breaking it down into a set of distinct elements that can be combined in different ways. It may offer a list of exercises, movements, or ritualized actions, each of which can be broken down into a number of steps and details. Alongside these, a technical manual may offer a set of practice structures for exploration or for use in particular situations. An example of a technical manual is B. K. S. Iyengar's *Light on Yoga* (1966), which is mostly composed of detailed technical descriptions of dynamic physical postures and also includes a set of "courses" or multi-week practice structures for various levels of ability. A technical manual can be extremely useful for an experienced practitioner but may not provide much of a foothold for the novice. It can also make an area of knowledge appear dry or cold, severing technical knowledge from the struggles and joys of practice. For these reasons, some researchers prefer to document their work in the form of a practitioner narrative. An example of a fictionalized practitioner narrative told from the perspective of a student is Konstantin Stanislavsky's *An Actor's Work* (2008). In a narrative account, technical detail is folded into a story about a particular moment of practice. This can have the advantage of making technique more accessible, but it can also be more difficult for the reader to distinguish between technique and practice when they are bound together in a single narrative.

If you are working within an established academic institution or discipline, you may well face specific requirements or expectations in terms of the style of writing, as well as the overall word count of what you produce. A practitioner narrative may be more or less closely related to what anthropologists call ethnography. When a narrative account focuses in detail on the first-person perspective and describes not just what happens but also how it feels and how the technique is experientially received, it may cross into a territory known in philosophy as phenomenology. When the description of technique refuses to limit itself to an established vocabulary of technical terms and instead uses poetic language to evoke more subtle or esoteric aspects of embodied practice, it may become a kind of "performative writing." And when embodied technique is carefully located in its historical and cultural context and examined in terms of its ethical and political implications, this suggests more of what we can call critical analysis. All of these strategies and more are available to you in the production of writing that stems from embodied research. You might choose one of them and see where it takes you; or you might try to combine the qualities of a tech-

nical manual, practitioner narrative, ethnographic account, phenomenological description, poetic evocation, and critical analysis within a single document. You may write continually while conducting your embodied research or you may separate embodied practice and writing into two distinct phases. These choices will influence the kind of written documents your research produces.

Over the past few decades, a new category of documents has arisen and begun to radically transform the landscape of scholarly disciplines and academic knowledge production. While written notation—textual, mathematical, musical, and otherwise—thus far retains its central position in the university, scholars in every field are exploring the impact of new media technologies on our understanding of knowledge and research. It is impossible to explore the range of multimedia documents in this context, not least because these technologies and their uses are changing so rapidly that what I write would be outdated by the time it is published. But I can offer some observations on the current state of multimedia documentation as it relates to embodied research.

Multimedia refers to all forms of analog and digital recording, from grainy black and white photographs to high definition digital video, from early sound recordings on wax or metal discs to digital mixing, and from discrete archival objects like film reels and DVDs to internet archives and data repositories. “New media” usually refers to the latter in each of these cases, but it is important to recognize that, in the history of transmissible knowledge documents, the development of both analog and digital recording technologies alongside written notation systems is incredibly recent and all the media technologies just mentioned are relatively new. The “moving picture” of cinema, for example, has been around for over a hundred years, however the ability to transmit a movie instantaneously across thousands of miles arrived only with the Internet. The potential for conceiving of movies as scholarly research documents has not been thoroughly explored, even if the basic technology of moving images has existed for some time. Other types of multimedia, such as the interactive online platforms now being explored in the digital arts and digital humanities, present substantial new formal qualities at the level of the document itself as well as its transmissibility. Multimedia documents offer new ways of producing archival documents from embodied research, with implications that have barely begun to be understood. Perhaps the only thing we can say for sure about the multimedia documentation of embodied research is that it suggests the development of radically new relationships between practice and archive, and that exploring these relationships will be an important part of many embodied research projects.

Because of the explosive growth of multimedia technologies at the present moment, it is not possible to offer a typology of approaches (as I did above for written notation). There simply has not been time yet to develop the kinds of disciplinary conversations about form and content that produced textual strategies like ethnography and phenomenology. As suggested above, there are two

major differences between “new media” and previous generations of recording technologies, both of which directly impact the documentation of embodied research: expense and transmissibility. Both of these differences can be illustrated by comparing the technologies of film and digital video. Because of its material existence as an analog recording, and because of the cost of working with it, film is not easily transmissible in the way that an academic document must be. Since long before the Internet, the copying and dissemination of written manuscripts has been the foundation for scholarly fields of knowledge and research. It is this process of copying and dissemination that allows for the kind of geographically and temporally dispersed conversations that support academic fields. A film theorist can go to the cinema to watch films and then write about them, but she cannot easily produce her own films in response to what she has seen — nor can she assign her students to produce their own films, except at great expense. Digital video fundamentally changes the economy and transmissibility of moviemaking, making it possible for individual researchers, with little funding, to create movies and share them across vast distances of time and space. With sites like YouTube, Vimeo, and the Internet Archive, we encounter archives of embodied research unlike anything previously imagined. Alongside these popular sites there are countless scholarly archives in the process of digitizing older recordings, as well as projects producing new documents of dance, sport, and other areas of specialized embodied practice. The question now is how such archives can be used to frame and support projects of embodied research.

As with written notation, various forms of digital recording capture different aspects of embodied practice. On a basic level, one may choose between still images, sound recordings, and audiovisual recordings (movies). The blur of movement in a photograph captures motion in a very different way from a sustained video recording, just as physical movement may be suggested but not specifically captured by an audio recording. As each of these media has been around in some form for about a century, there is a tremendous amount of craft and technical knowledge available to learn. For example, choices related to camera placement and angle, lens and aperture settings, and microphone arrangements can make a huge difference in the resulting documentary outcomes. However, embodied researchers should not be daunted by a lack of expertise in these areas. Technological skills may be important in producing research documents, but they should not displace the centrality of embodied technique. In this, the new media are no different than the old media of written notation: The need for technological, notational, or other skills should emerge directly from the form of the embodied practice being documented.

For some embodied research projects, it may not be necessary to engage with multimedia at all; the strategies of writing described above may be sufficient. Other embodied research projects may require complex forms of multimedia documentation, such as high quality sound and video recording; or digital

motion capture using sensors placed upon the practitioner's body; or even brain scans that monitor brain activity during the practice of a particular kind of technique. The latter of these are not widely available and inexpensive, but may eventually become so. Where documentary technology is an important part of the project, additional people may be needed and the researchers should consider how to integrate them into the relevant practice structures. Standard documentary technique tends to approximate the "practitioner narrative" strategy, in order to interest a wider audience. Thus, documentary movies about dancers, sports teams, or theatres will often follow the story of a particular individual or company as they make their way in practice, letting technical detail appear intermittently through the lens of that narrative. In contrast, a document aimed at a scholarly audience might take inspiration from any of the other textual strategies mentioned above in determining the types of technology used, the way these are integrated into embodied practice structures, and the editing of transmissible research documents. How might one produce scholarly documents that bring technical specification, ethnography, phenomenology, poetic evocation, and critical analysis to new levels through the use of multimedia technologies? This is a question that embodied researchers should continually be asking.

No transmissible document will fully capture your knowledge of technique, let alone your experience of practice. Think of what you have discovered through embodied practice and make an educated guess about who might be interested in those discoveries, either now or in the future. Imagine not only individuals but also communities that might be influenced by what you have done. Considering the impact of your work does not require you to see yourself as a visionary or genius. Perhaps the most important aspect of your work is your ability to share and document an area of knowledge that preexists you by hundreds of years. Research need not be wildly innovative to be important; it can also be a form of service to a line or lineage of practice. In leaving traces of your practice, you honor those who came before you and have made your research possible.

5. Criteria for assessment

Perhaps the most important section is this final one, in which we consider how the results of embodied research can be assessed. After all, the important thing is not the format of your research outputs: writing, video, an internet website, or something else entirely. Far more important is the content of the embodied research and the new discoveries and pathways that you make available to small and large communities of knowledge and practice. The assessment criteria discussed here should be considered at every stage of your research, from designing and framing the project to editing its documentary traces. In the early phases, thinking about these criteria may help you find the appropriate scope for your

research relative to the amount of resources available to you. In order to conduct research in the strong sense of that term, you must find the “research edge” of a field or community of knowledge. But a field of knowledge is a complex phenomenon. Some research edges may be more important, risky, or well-recognized than others. How do you choose exactly where to locate your research in the field? How do you design appropriate practice structures to explore that territory once you have chosen it? There are no universal answers to these questions because they depend upon the dynamics of each particular field, discipline, and research project. However, reflecting on the following assessment criteria may help you think through your research goals and methods.

These criteria are based on what Michèle Lamont calls “epistemological styles” (2009: 57). Lamont describes four different styles of knowing and argues that different academic disciplines are partially defined by how they rank the importance of each. In the present context, I will assume that embodied research can make use of all four epistemological styles and that it is up to the researcher to determine which ones are most important for a given project. Not every project will aim to produce results according to all four of them. In fact, it is probably quite rare for a project in any field to be successful according to all four epistemological criteria. In many cases, a significant success according to just one of the criteria might be sufficient. The four evaluative criteria are: *comprehensive*, *constructivist*, *positivist*, and *utilitarian*. Here I am adapting them from Lamont’s usage in order to make them applicable to many different kinds of embodied research.

The *comprehensive* criterion asks whether a project comprehensively explores a well-defined area of embodied technique. Thoroughness is a very important aspect of research, as I mentioned at the beginning of this methodology. To conduct comprehensive research, it will be necessary to very precisely frame your area of exploration. You will probably want to use several of the framing strategies discussed above, specifying what area of technique will be explored by reference to historical and cultural lineages, personal experience and training, and technical analysis. Once this is done, the researcher has their work cut out for them: To thoroughly explore the territory indicated by that detailed historical and technical framing. Research that emphasizes the comprehensive criterion above everything else is sometimes called “pure” research because it does not need to engage with contexts external to a precisely established frame. There is something straightforward (although not necessarily easy) about conducting research with an emphasis on the comprehensive investigation of a defined area. The risk with such an approach is that, if the framed territory is not clearly relevant to current movements in society and culture at large, the research may be dismissed as an esoteric exercise. On the other hand, research that is successfully comprehensive provides an overview of its area of investigation that others can rely upon for their own work. Historically, the comprehensive approach was

highly valued as a hallmark of academic research. Today, some of the most substantial debates over the future of academia have to do with the relative importance of the comprehensive criterion.

The *constructivist* criterion asks whether the area of embodied technique that the project explores could be of help in the development of a better world. The constructivist position assumes that all research is based on a set of implied social, cultural, and political values. Because there is no such thing as a purely objective perspective from which to carry out an investigation, the choice of what and how to research is always laden with values and choices. This criterion emphasizes the broader significance of these choices. It suggests that we should not choose an area of technique to research simply because it interests us personally or even because it has been highlighted by others as deserving exploration. Rather, we should make a conscious effort to bring balance to the landscape of academic knowledge by directing our efforts to areas of technique that will best serve future generations. Examples of such areas might include those that can be used to resist and undermine socially oppressive hierarchies, such as the embodied technique of gender and sexual diversity or anti-racist technique that could help to develop more ecologically sustainable societies. The risk here is that, if the research identifies itself too closely with an existing social or political movement, it may be criticized as not maintaining sufficient academic distance. Too much emphasis on the constructivist criterion can lead to a failure to maintain rigor according to the other criteria, as is seen when a political goal—no matter how noble—leads researchers to distort their findings. The constructivist criterion has always been controversial because of its direct connections to society, culture, and politics. On the other hand, it is difficult to deny that one of the most important functions of research is to provide knowledge in the service of constructing a more just or sustainable society.

The *positivist* criterion asks whether the research undertaken has produced a clear outcome in the form of new transmissible technique. The assumption behind this criterion is that fields of research are coherent enough, and communication between researchers transparent enough, to allow for a definitive assessment of when something new has been discovered. A positivist emphasis will focus less on the framing of a project, or even the actual methods used, than on the concrete transmissible outcomes that arise from it: written documents, data sets, measurements, audiovisual recordings, and the like. Do these contribute substantially new knowledge to an existing field? Positivism has been an extremely powerful force in the sciences, where it has allowed for the gradual accrual of extraordinarily complex bodies of knowledge in fields ranging from mathematics and physics to biology, physiology, and medicine. Positivism has historically played a much smaller role in the arts and humanities, but the development of multimedia technologies that can digitally capture the details of embodied practice suggests that this may be changing. The risk in emphasizing the

positivist criterion is that its assumptions about disciplinary coherency and communicative transparency can work to conceal and devalue radical or unexpected strategies for research. Because positivism places its faith in the historical achievements that have led to the present moment, it may unintentionally uphold the status quo, foreclosing truly innovative research.

The *utilitarian* criterion asks whether and how the new technique generated through embodied research will be useful to others outside the field of research and outside academia entirely. This criterion is similar to the constructivist criterion in that aims to assess research in terms of a wider social context rather than on its own terms. However, while the constructivist criterion locates ethical and political responsibility for research with the researcher, the utilitarian criterion is concerned with the match between the research project and its existing social and institutional setting. It requires the researcher not to articulate her own values but to align the research program with values upheld and articulated by society at large—such as “health” or “creativity” in much of Europe and North America today. Both positivist and utilitarian criteria emphasize the concrete outputs of research. For positivism this refers to stable and transmissible documents, whereas the utilitarian emphasis is on the application of research outside academia, especially in the short term. The risk in emphasizing utility above other criteria is that such research does not offer fundamentally new approaches or avenues but merely extends those that are already accepted. However, to the extent that a society has managed to articulate its goals for the future, the success of research can undoubtedly be assessed at least in part through reference to those goals.

All four of these criteria are epistemological: They address the quality and rigor of research as a source of new knowledge. However, each emphasizes a different aspect or goal that research can have. The criteria can be applied at any level: I use them to assess my students’ research; hiring committees and funding panels use them to assess my research; and politicians and voters use them to assess governmental funding bodies like the National Endowment for the Humanities (in the United States), the Arts and Humanities Research Council (in the United Kingdom), and the European Research Council. But of course, in these different situations the four criteria are ranked very differently. The constructivist criterion is sometimes dismissed as political, but to reject it would be to deny the importance of research in building a shared future. The positivist criterion has sometimes been rejected by embodied practitioners who prefer to emphasize the ephemeral and uniquely interpersonal nature of what they do — but it is a mistake to underestimate the power of transmissible knowledge documents in the development of fields and disciplines. In the present era, the utilitarian criterion is in ascendance, with short-term cultural and technological goals often taking precedence over long-term social and ecological ones. Conversely, the comprehensive criterion is currently being devalued, with areas of

“pure” research being dismissed as esoteric and unnecessary. Yet the mark of a robust research culture is its support for a diversity of projects emphasizing each of these criteria in various combinations.

Thus far I have avoided providing examples of these four assessment criteria, because the field of embodied research is vast and I do not want to reduce these epistemological considerations to any one area. But an illustration may help to clarify how emphasizing one or another of the criteria can substantially transform the design of a research project. I am currently researching the technique of “song-action”, that is the act of singing as a complex psychophysical practice that engages the whole person and may be extended to interpersonal, communal, and social interactions. Performing arts are often considered to be inherently utilitarian and in this case the most relevant area of practice is Broadway-style musical theatre. If I wanted to emphasize the utilitarian aspect of my research, I could explore the integration of Method Acting—the popular approach to psychological realism developed by Lee Strasberg after seeing performances directed by Konstantin Stanislavsky—with popular song. The goal of my project might be a new method of integrated actor training for musical theatre performers and students, which could be documented through a narrative-style book and a documentary video. In my actual research, I am more interested in emphasizing the comprehensive criterion, which has less often been applied to embodied research in performing arts. As a result, I try to be much more precise in specifying the area of technique that I explore. Rather than just “Method Acting,” I refer to a specific lineage of psychophysical action that can be traced from Stanislavsky through Polish innovator Jerzy Grotowski and Italian director and teacher Anne Zenour to my own teacher Massimiliano Balduzzi. I try to be equally precise when specifying which songs I am exploring and where I learned them.

A constructionist goal underpins my research, but at present remains implicit. Like many other practitioners of specialized embodied technique, I was drawn initially to a particular area of practice because of a deep personal need. However, I also believe that devoting time and energy to the embodied technique of song-action could be part of building a better world. I suspect that the “turn to embodiment” we are seeing across the humanities and social sciences is linked to the urgent need to develop more ecologically sustainable societies. I worry that the emphasis on athletic prowess and a narrow idea of health as physical fitness are complicit with the overall privatization of the public sphere, the knowledge commons, and social welfare. Although I can’t yet quite put my finger on how, I feel that song, movement, psychophysical action, and somatics could be part of a future social movement for justice and sustainability. I also believe that the university, including its positivist legacy, is vitally important to such struggles. Despite the many valid critiques of positivism as an overarching academic ideology, a smaller role for positivism—as one among several assess-

ment criteria—seems crucially important to me. I have therefore begun to organize my research so as to focus less on the event of live performance and more on the creation of dense multimedia documents that expose and explicate the layers of knowledge that structure my embodied practice.

These brief comments indicate some of the ways in which I have negotiated four kinds of epistemological evaluation in forming my own research program. In designing your own embodied research project, it may help to choose one of these criteria as a starting point. You might even come to think of yourself as a primarily comprehensive, constructivist, positivist, or utilitarian researcher. But it will be worthwhile to examine your project from all four of these angles—and others as well, if they arise. There is no harm in attempting to achieve all four kinds of success by designing a research project that comprehensively explores a clearly framed area of technique, produces stable documents of positive outcomes, serves the articulated goals of society in the short term, and aims to construct a better world in the long term. By all means, try to do all of these things. But also prepare a ranking of these priorities to fall back on in case they come into conflict with one another. Sometimes being comprehensive makes it difficult to be utilitarian. Sometimes being constructivist makes it difficult to be positivist. Ask yourself: Which of these criteria is most important to you and to the communities that you serve? Research accordingly.

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