

NINA SUN EIDSHEIM

SENSING
SOUND

Singing & Listening as Vibrational Practice



Sign, Storage, Transmission • A series edited by Jonathan Sterne and Lisa Gitelman

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IN MEMORY OF & DEDICATED TO

Hillary Elizabeth Brown (1971–2011) • Nicolás Arnvid Henao Eidsheim (2011–)

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closing our senses and minds to what is there? Do we accept sound (and our perception of it) in its (and our) specific (and sometimes unexpected) material, positional, and acoustical unfolding? Above all, we are not only confronted with these specific pieces in seemingly anomalous acoustic situations, but—at any acoustic moment—we are faced with a decision point: will I reify, and hence reinvest power in, the concept and perceptual schema of sound, rather than questioning it by negating an experience that did not adhere to the figure of sound? Or will I invest in the experience and realize that there is something other than what the figure of sound suggests? In other words, when confronted with these types of anomalous acoustic experiences, will I explore or reject them? And, ultimately, since the world—and our own relationship to it—is partly formed through the normative spatial-relational and acoustic mediation that we have internalized, do we explore or reject anomalous encounters with other human beings?

In the end, it comes down to developing an awareness of the seeming anomalies before we can even notice that we have a choice between accepting or rejecting what have been deemed nonnormative sonic experiences. Our awareness of that choice is the linchpin not only of this chapter, but also of the overall arguments of this book. In this chapter, then, we have examined some examples of the lived pedagogy and practice that lie at the heart of each such decision point. Essentially, I argue that what might look on the surface like an aesthetic appraisal is actually a choice made by a body trained in spatial-relational acoustics and encultured to orient itself to the figure of sound. Of course, this choice is crucial not because of its acoustic concreteness, but because it carries consequences for our overall relationship to the world. To put it another way, following the trails of experiential conundrums and decision points, *Songs of Ascension* and *Invisible Cities* offer vivid examples of the ways in which the world—and the figure of sound—is rendered through acoustic mediation, and the degree to which we have internalized this rendering. We will now move on to the third naturalized area of voice, listening, and to the music this book considers: sound itself.

MUSIC AS ACTION

Singing Happens before Sound

“Yes. I Can Hear My Echo”: Vocal Paralysis and Vocal Ontology

In Richard Serra’s 1974 video art piece, *Boomerang*, Nancy Holt speaks.¹ Simultaneously, she listens to the electronically mediated echo of her own voice. Between her utterance and its echo is but a slight delay.² In the bluish-tinted image, Holt wears headphones and, as though to get her bearings by touching something tangible, she holds each ear pad with her hands. Hearing her own voice consistently, predictably echoed—hence the title of the piece—she reacts spontaneously even as she reflects on the experience. She is charged with simultaneously producing and sharing her perceptions. Near the beginning of this ten-and-a-half minute piece, Holt says:

Yes. I can hear my echo.

And the words are coming back on top of me.

Eh . . . [We can hear the thought process momentarily breaking down; Holt is seemingly unable to continue thinking while listening to herself. For me this is a key moment. She is moving into a nonlinguistic vocal space.]

The words are spilling out of my head and then returning into my ear . . .

It . . . puts a distance . . . between the words and their apprehension . . . or their comprehensions.

The words coming back . . . seem slow . . .
They don't seem to have the same forcefulness . . . as when I speak
them.

I think it is also slowing me down . . .
I think . . . that it makes my thinking slower . . .
I have a double take on myself . . .
I am once removed from myself . . .
I . . . am thinking . . . and hearing . . . and filling up a vocal void.
I find . . . that I am having trouble making connections between
thoughts . . . [There is a long pause—this is also a key moment.]
I think . . . that the words forming in my mind . . . are . . . somewhat
detached . . . from my normal . . . thinking process.
I have a feeling . . . that I am not where I am . . .
I feel that this place . . . is removed from reality.
Although it is a reality already removed from the . . . normal reality³

Holt confirms that her monologue was not at all scripted but was a “totally spontaneous” reaction to the situation. This includes her use of the word *boomerang*, which Serra then adopted as the title of the video artwork.⁴ She adds that this was the “first time [she] was exposed to the sound delay situation.”⁵

Boomerang premiered less than a day after it was made—on the very night of its completion—before “a group of artists” at the Electronic Arts Intermix (EAI).⁶ Founded in 1971, EAI was one of the first nonprofit organizations in the United States explicitly dedicated to video art, which was then a nascent art form. In analysis and criticism, *Boomerang* is, therefore, typically addressed within the context of video art. That is, the video images are the focus of discussion. For instance, it is in such an oculo-centric context that Rosalind Krauss sees *Boomerang* as an exemplar of an aesthetics of narcissism. She describes *Boomerang* as “self-encapsulation,” “a situation in which the action of the mirror-reflection (which is auditory in this case) severs her [Holt] from a sense of text: from the prior words she has spoken; from the way language connects her both to her past and to a world of objects.”⁷ Krauss echoes what Holt says during the performance: “I am surrounded by me.” Thus, the piece, *Boomerang*, raises the question about presence by exposing how the medium of video trades in modes of reflectivity and simultaneity.

Two and a half decades later, Anne Wagner’s analysis adds nuance to the insights about the video aspect of the piece. Instead of considering Serra’s medium (video) alone, her discussion centers on the process documented by the video: Holt’s public subjection to her own echoes. “We see her staring into

a void, out of which language falls because technological artifice makes it too present, too insistent, too public, to be endured,” Wagner observes. “Though the gap is simulated and correctable, its effects really happen; watching Holt struggle with a toxic media overdose, the viewer encounters something she can only be convinced is real.”⁸ In other words, as the video artist Laura Malacart writes, *Boomerang* is a “use of the voice that undermines semantic communication”: the fall of language is consequent to the speaker’s “affect and discomfort.”⁹ These reflections by Krauss, Wagner, and Malacart all rest on the same assumption: they presume a collapsed understanding of language as voice.¹⁰ According to this shared understanding, which is evident even in Holt’s self-reflections, her fluid ability to think of words is hampered by the delayed play-back of her voice.

In contrast to the videocentric readings, the concrete video portion of the piece demonstrates a lack of confidence in audio. In my view, the video image of Holt struggling to conceptualize and verbalize her disorienting experience merely functions to confirm that the vocal disruption she is suffering takes place in real time and is not manipulated. It seems that the audio recording alone could have conveyed the point of the piece, yet Serra chose to include video as well. Why? One answer has to do with the evidentiary capabilities of sound and image. Serra’s insistence on the visual image implies that audio alone is insufficient evidence of the trauma that results when one attempts to talk and listen to oneself at the same time. In that regard, Serra echoes the attitude to audible versus visible evidence emblemized by the term *hearsay*. Alternatively, as I will discuss later, sound in relation to the visual might be what Jacques Derrida would call the supplement.¹¹ In this paradigm, which prioritizes visual over sonic evidence, visual documentation accompanies the sound recording of the event to lend credibility to the artwork’s overall veracity.¹²

At the heart of *Boomerang* lies the paradox that one’s own words jam the ability to produce other words, interfering with articulative fluidity. Holt is subjected to the experience of the delayed effect of her very own narration of the experience of the effect that the delay has on her. As she describes her experience, she hears a slow recitation of that very description interspersed with pauses and nonlinguistic indicators of her own hesitation (“mmmm,” “hmmm,” “ehm”). The pauses are so frequent and drawn out that the boundaries between sentences are far from clear. Reflecting on this, Holt says: “Sometimes I find that I can’t quite say a word because I hear the first part of it come back, and I forget the second part or my mind is stimulated in a new direction by the first half of the word.” Holt’s ability to speak is inhibited by a multiplicity of real-

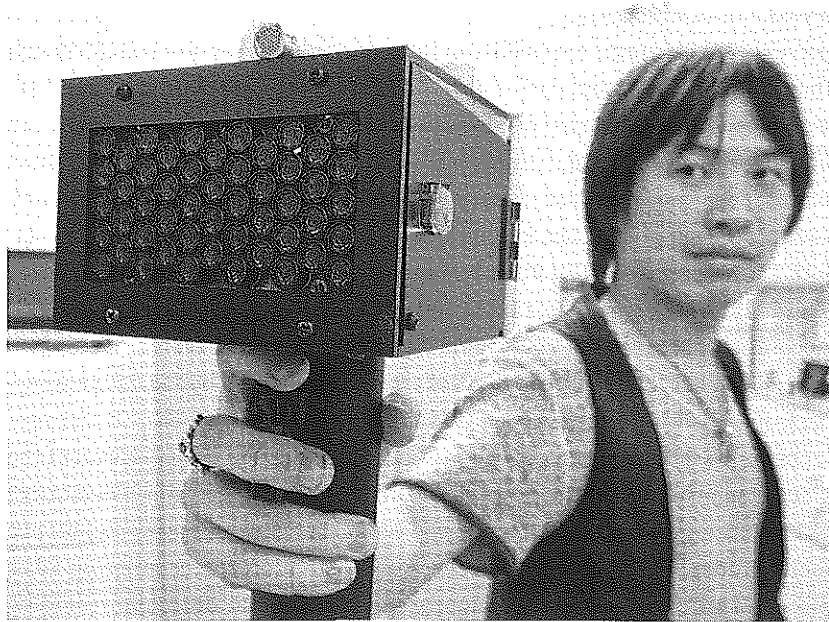


FIGURE 3.1 • SpeechJammer (photo courtesy of Kazutaka Kurihara and Koji Tsukada).

time input, including the delayed playback of what she has just enunciated. That is, she is taken out of her train of thought by the sound of the sentence she is attempting to complete.

The experience of digital feedback in communication environments such as Skype is analogous and familiar to many of us.¹³ In the event of a malfunctioning connection, you hear feedback and an echo of your own voice as you speak. If you listen to this echo, retaining a train of thought becomes challenging. Listening to one's own voice slightly out of time disturbs the thought process and its verbal articulation (speech). Considerable effort must be exerted to concentrate on what you are saying, rather than on the auditory evidence of what you have just said.

This cognitive challenge has been used to some advantage in the recently created SpeechJammer (figure 3.1). This “portable speech-jamming gun” is a device comprised of directional microphones and speakers and is intended to silence individuals who talk too much in a group situation. When the gun's user applies the trigger, the device records the “target's” speech with a directional microphone, firing his or her words back at him or her via a speaker. More precisely, in the words of Kazutaka Kurihara and Koji Tsukada, who developed

SpeechJammer, “human speech is jammed by giving back to the speakers their own utterances at a delay of a few hundred milliseconds.” This phenomenon, known as speech disturbance by delayed auditory feedback, is intended to cause the target to stutter and fall silent. The speaker feels “disturb[ed]” but does not experience any “physical discomfort,” and the disturbance, the feeling of being “jammed”—the interruption of the thought process that causes the victim to stutter—disappears as soon as he stops speaking.¹⁴

SpeechJammer might appear to be a novelty device: it won an Ig Nobel Prize in 2012, an award “intended to celebrate the unusual [and] honor the imaginative.”¹⁵ Nonetheless, it challenged me to think about the relationship between language and voice, and it has inspired other creative projects around the world. Instructions for creating homemade SpeechJammers and speech-obstructing software applications (hereafter, apps) appear all over the Internet.¹⁶ YouTube offers several examples of speech jamming in action, in situations ranging from social gatherings and video blogs to talk shows.¹⁷ In many cases, speech-jammed victims dissolve helplessly into giggles.

Speech jamming works, causing victims to feel “zapped,” as one app puts it, because, to many people, vocalization hinges on making sense.¹⁸ A “jammed” voice, reduced to sounds like “hmm” and “ehm,” fails to make linguistic sense. In this paradigm, then, voice and logos are equivalent; the voice functions within a closed system made up of known or knowable sounds. Utterances are judged in terms of their fidelity to a predetermined notion of what the sound should be, a notion determined a priori by the system. A victim of speech jamming can only make nonlinguistic sounds—sounds that fall outside the system. If, as Adriana Cavarero aptly observes, in “the logocentric tradition” the voice is defined as “words of a language in front of a mouth that opens,” then nonlinguistic stutters and sounds of hesitation are not voice.¹⁹ If anything, these sounds are heard as failed voice. However, in examining them, we might be led to think beyond abstractions of sound (and subsequent divisions into signified and signifier) to something that lies at the heart of all vocal modes, including those typically deemed nonsensical and risible.

The three examples I have touched on—*Boomerang*, the Skype malfunction, and SpeechJammer—turn on the paradox that throwing someone's own words back at him or her induces vocal incapacity or a sense of being blocked. We may observe various levels of breakdown, from Holt's articulate but halting description of how thought disturbance feels to incredulous stuttering and the collapse of the voice into self-deprecating laughter at its own lack of control. In each case, speech disintegrates from coherent phrases into nonlinguistic sounds and pregnant pauses. Holt describes the combined result of this pecu-

liar speech as an absence of “forcefulness” in the words. As the speaker, she senses that she is “slowing” down or that she is “once removed” from her own speech. Furthermore, she feels that she is “thinking and hearing and filling up a vocal void.”²⁰ Indeed, in all three examples, the vocalizer felt that she was genuinely impaired, relative to the linguistic system. What might engender such strong reactions to the breakdown of speech and exposure to other aspects of vocality? The unvoiced assumption is that voice functions only in the service of rational thought and speech.

But while the connection between thought, vocal intent, and speech is altered by delayed vocal feedback, to what extent is the voice truly paralyzed? In none of these cases do nonlinguistic utterances suffer any distortion or muting. *Boomerang*, for example, caused no impediment to Holt’s ability to produce sounds like “ah” or “um.” SpeechJammer’s inventors observe that “speech jamming never occurs when meaningless sound sequences such as ‘Ahhh’ are uttered over a long time period”—the device jams only linguistic vocal sounds.²¹ In fact, any notion that the voice is jammed or paralyzed by these processes hinges on the erroneous assumption that speech alone—that is, logos or sensible linguistic utterance—counts as vocalization. The experiences I have described caused breakdowns in vocalizers’ ability to produce the vocables that they needed to pronounce correctly to be understood. What they experienced was not vocal paralysis, but a greater difficulty in their attempts to match their vocalizations to known sonic models—that is, to familiar words. Only preconceived sounds were jammed. The vocalizers’ discomfort shows that, while there are plenty of vocal sounds involved in communication, we do not endow each sound with communicative value, though we do accord that value to sounds such as words: nonlinguistic sounds and pauses are understood as the words’ negative backdrop.²²

This is one example in which listening proves to be always already deeply encultured. Through a cultural process that divides signifying vocal sounds from nonsignifying vocal sounds, we learn to value each differently.²³ We learn to concentrate on vocalizations that reproduce signifying sounds to the extent that we naturalize them, and consequently we are unable even to conceive of other vocal sounds as vocalization. The examples discussed here expose the gaps in such naturalized listening practice and insist that voice cannot be defined by logos, or systems spun out of logocentrism, alone.

This book’s previous chapters describe the naturalization of basic musical components. In the vocal experiences that comprise *Boomerang*, bad Skype connections, and SpeechJammer, the naturalization of yet another musical element, signifying sound, becomes evident. It is on this incomplete engage-

ment with selected aspects of the thick musical event that our understanding of voice and music as well as our analytical tools are based. Consequently, our knowledge of voice and music is not only incomplete, but also skewed. It is not voice—vocalization as physical activity—that is stymied in these examples. Even when words refuse to come, the vocalizing body remains active. Instead of the logocentric definition of voice (with which Cavarero takes issue), *Boomerang* and SpeechJammer exhibit a voice that “transcends the plane of speech” and indeed “plays a subversive role with respect to the disciplining codes of language” and the fetishization of certain types of vocal sound.²⁴

While the notion that music consists of selected signifying sounds has already been interrogated, I want to go one step further.²⁵ In the same way, as I discussed in chapter 1, air has been naturalized as sound’s propagator, so that sound’s passage through other materials—and its idiosyncratic nature in each unique material propagation—are not accounted for when we talk about music (except in extreme situations such as a thumping bass or a glass splintered by a piercing high note). And, as I discussed in chapter 2, while sound is always produced from a particular point in space, it is typically described as frontal, two-dimensional, and static when it is involved in music—again, unless there is an extreme situation at hand. I want to go so far as to posit that the third naturalized parameter of music is the notion that music’s major identifying component is sound.

This chapter considers the ontology of voice, assuming a notion of voice that takes into account a number of activities related to sounds produced by living, communicating, and perceiving bodies. I will begin, though, by looking at how the marginalization of activity in favor of finished products affects the reception of visual artworks. In calling attention to this analogy, my goal is to show that just as the thick event of painting has been reduced to visual marks, the thick event of music has been reduced to sound.²⁶

Considering Action: Jackson Pollock

Echoing the tension I have addressed regarding sounds and pedagogies of listening that legitimize classified sounds, Jackson Pollock’s action painting unsettled long-standing positions on the dynamics at work in painting between causal actions and signifying or nonsignifying visible results. Thus Pollock’s work effectively disrupted normative discourses surrounding visual art by provoking discussion about action in relation to its result, the painted marks.

Here, we observe an analogy to *Boomerang* and SpeechJammer. While a variety of vocal sounds were present, only selected sounds were considered

within the value system of normative voice. Hence, the “umms” were seen to reflect the extent to which the normative voice’s abilities were jammed. Analogously, the thick event of painting gives rise to a variety of marks, from drippings to be washed away (like “umms” to which we don’t listen) to marks considered painterly (like words to which we pay attention). Pollock’s explicit use of dripping signals his unabashed inclusion of elements normally seen as superfluous to painting: accidents resulting from lack of control, excesses to be covered or washed away. Pollock gave these marks value within a composition.

Pollock was explicit about the value he placed on the premeditated mark—that is, what made a painting look a certain way as a result of careful planning and the technical ability to carry out this plan. When a reporter dared to compare his work with aleatory art, the artist became enraged. He burst out: “Don’t give me any of your fucking ‘chance operations.’” To demonstrate that chance played no part in his process, he threw some paint at a doorknob across the room. Pollock “hit that doorknob smack-on with very little paint over the edges” and topped the gesture off with the comment: “And that’s the way out.”²⁷ However, while Pollock expressed outrage at suggestions of anything but traditional painterly values, and while he demonstrated his precise painting skills, his bravura created interest in the actions that lead to the existence of paint on a given surface.

Echoing Pollock, in discussing the 1950 *Lavender Mist*, Robert Hughes, *Time* magazine’s art critic, also stressed the premeditated aspects of the compositions and the artist’s technical ability. According to Hughes, Pollock’s refinement as a painter results in “delicacy—at a scale that reproduction cannot suggest”:

It is what his imitators could never do, and why there are no successful Pollock forgeries: they all end up looking like vomit, or onyx, or spaghetti, whereas Pollock . . . had an almost preternatural control over the total effect of those skeins and receding depths of paint. In them, the light is always right. Nor are they absolutely spontaneous; he would often retouch the drip with a brush. So one is obliged to speak of Pollock in terms of perfected visual taste, analogous to natural pitch in music—a far cry indeed, [sic] from the familiar image of him as a violent expressionist.²⁸

Generally speaking, although Pollock explicitly engaged in what was then a new process, discursive frameworks (even the artist’s own) persistently relied on existing evaluative models, basing evaluations of his work on relationships to known indices. However, even if Hughes’s defense of Pollock’s work was

cast in a language of precision and premeditation, Hughes’s critique paved the way for action, rather than the final imprint, to be understood as the point of painting. If Pollock is admired for being able to hit a doorknob with paint, he is perhaps the first painter to be praised for the mere act of getting paint onto a surface. Therefore, despite his intentions, his work also challenged his viewers to expand their understanding of the types of marks that constitute a painting. Thus, it was not only the apparent free flow of Pollock’s paint, between the two harbors of brush and canvas, that thrilled his audiences. In other words, even if it is in part Pollock’s precise indices (a traditional painterly currency) that are admired today, it is because these indices were created by particular—seemingly unpainterly—actions that the resulting marks are celebrated. Hughes’s praise of Pollock’s “perfected visual taste” foregrounds the fact that all marks are preceded by actions.

Despite Pollock’s conservative framing of his work, and his demonstrations of precisely placing paint on surfaces, he inadvertently presented a productive dissonance that was noted by critics and fellow artists. Harold Rosenberg, who is credited with coining the term “action painting,” describes the shift: “At a certain moment the canvas began to appear to one American painter after another as an arena in which to act. . . . What was to go on canvas was not a picture but an event.”²⁹ Rosenberg read Pollock’s work as expanding the moment of art to include what happened before the arrival of the paint on the canvas. Rather than focusing on the result, in Rosenberg’s view, Pollock stages his physical and visceral situation “in’ the [act of] painting” by laying his canvas on the floor, hovering over it with brush and paint, and allowing the final product to be whatever resulted from his movements. His focus was on what was happening: the canvas documented, and was part of, the event. Amelia Jones offers similar observations, noting that “the [Hans] Namuth images of Pollock show him standing above or within his huge canvas, overtly and theatrically performing the act of painting,” and that in Namuth’s 1950 movie, *Jackson Pollock*, the artist’s “act of painting presented art as performance . . . rather than a fixed object.”³⁰

Going a step further, Jirō Yoshihara and the approximately twenty artists involved in Japan’s Gutai (“Concrete”) Art Association mistook Pollock’s work for performance.³¹ Inspired, the association created events (or happenings) and participatory environments such as moving in mud and making marks by leaping through a wall-sized piece of paper stretched over frames.³² In an interesting twist, the group’s idea of Pollock made its way to the United States, where artists began to undertake an intentional restructuring of painting as event. Today, despite the insistence by Pollock and some critics on the paint-

erly mark, as Jones observes, his legacy is inseparable from the term *action*, and artists have found inspiration for performative work in the concept that term suggests.³³

Considering Action, Again: *Noisy Clothes*

Working through this broad range of artistic practices suggests an expansion on Mladen Dolar's views: vocal sounds are not split into signifying and non-signifying, with the latter, by default, also classed as signifying because they bring the signifying sounds into relief.³⁴ Instead, in this chapter I suggest that, whether the result is audible to the ear through propagation in air or otherwise consciously or unconsciously sensed, a person who forms meaning based on a vocal utterance uses every aspect of that utterance in the process. Vocal utterances do not signify a static meaning in their capacity as a particular species of signifying sound but, rather, in their ability to cause a shift in a given person. And the entirety of that shift in a material and sensory relationship is used as the basis of meaning formation.

The Gutai Association's thought-provoking work offers one possible response to the following question: might it be possible to imagine a situation in which an imprint or a sound is not evaluated according to a preconceived value system?³⁵ What might result from the range of actions, such as those carried out by Pollock or artists associated with the Gutai Association? What kinds of results might follow musicians' actions? In my artistic practice, thinking about music making as action suggested a shift in its objectives away from signifying and preevaluated sounds. I looked to action in the hope of setting up a situation in which I could be driven by impulses and rewards other than the creation of particular, premeditated kinds of sounds—precisely because such premeditated sounds had previously imprisoned my music making within sonic ideals.³⁶

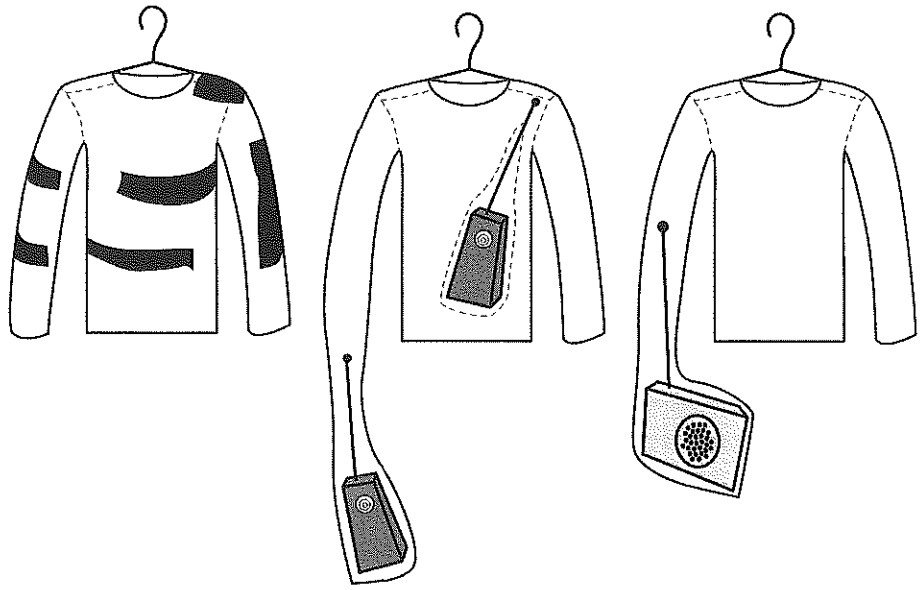
The resulting musical experiment, *Noisy Clothes*, provided a physical framework for performers to enter.³⁷ It consisted of a staged setting, including instruments in the form of costumes.³⁸ Performers were given no knowledge of the instruments before they arrived on the stage—thus they were invited to explore the relationship between action and sound that resulted from their spontaneous interaction with the equipment.³⁹ The thirty costumes, created by Elodie Blanchard and me, were also sound-producing devices that would make sound only if the body engaged with them, launching them into action (figure 3.2). However, exactly how each costume produced sound depended on how each performer used it (figure 3.3). Unlike a conventional instrument

such as the piano—which, as is commonly known and suggested by the keyboard interface, produces sound when fingers press its keys—our noisy clothes had no prescribed conventions or movements by which to create a sonic result (figure 3.4). Rosenberg's description of action painting provides a worthy analogy: "The painter no longer approached the easel with an image in his mind; he went up to it with material in his hand to do something to that other piece of material in front of him. The image would be the result of this encounter."⁴⁰ Similarly, music in *Noisy Clothes* resulted from the encounter between interacting, moving bodies and clothing.⁴¹

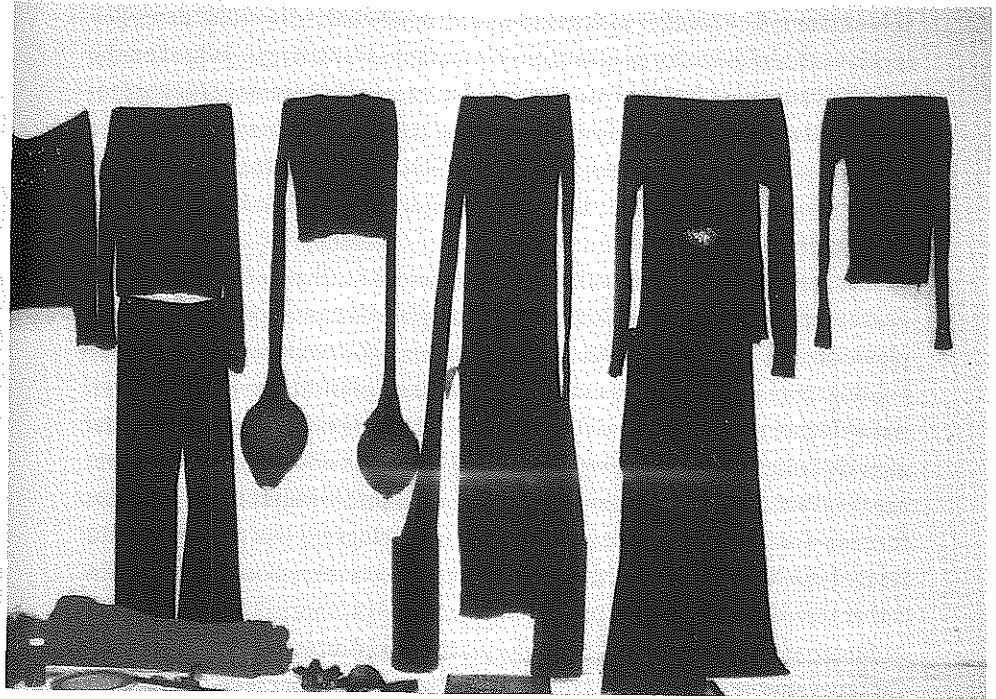
In other words, because of my experience with *Noisy Clothes*, I could ask: now that we understand the relationship between action and its result in the form of a range of marks or vocal sounds, how can we free ourselves from pre-determining the range of marks and judging them according to a preexisting value system? The discourse about Pollock exemplifies the tension between these two positions and suggests that one cannot easily coexist with the other. It is only by altering the frame that we can set aside our inherent assessment of one set of judgments—that is, change the values attached to judging sounds according to a preexisting value system. In the case of Pollock, the former frame is the conventional painterly aesthetic value of the imprint's precision and overall composition. In contrast, the new frame within which Rosenberg and the Gutai Art Association considered Pollock's work rendered it more akin to an event.

In the case of a concert, the equivalent former frame is made up of the conventional music-based values that assume that sound is present and that music deals in sounds. In contrast—by involving designers, who deal in fashion, and inviting many performers who had no formal background in music to participate—*Noisy Clothes* entered a new frame that rendered the concert an event. Moving from a product frame to an action frame directs the participants' and audience's expectations, attention, judgment, and evaluation of a given event: what would be judged within one frame according to adherence to a preconceived sound system would, within another frame, not be held accountable to any sound system.

In response to this realization, Blanchard and I actively sought to reframe sound making by rethinking the collective rehearsal process. To discourage participants from forming expectations in relation to music making and from relying on the dominant belief that the project dealt in signifying sounds, we made a point of emphasizing that *Noisy Clothes* was a playful, social, experimental event (new frame) rather than a concert (conventional frame). To counter any notion that what we were doing should conform to the standards established



FIGURES 3.2-3.4 • Above: Three *Noisy Clothes* costumes (drawing by Juliette Bellocq; tracing by April Lee). Next page, top: Noisy clothes wearers' interaction (photo courtesy of the author). Next page, below: Silhouettes of a number of the *Noisy Clothes* costumes stored between rehearsals (photo by Elodie Blanchard).



by any particular musical culture, we invited nonmusicians to serve as performers. These decisions, which unsettled the traditional setting for musical practice, were intended to dislodge the judgmental mode of listening propagated by musical cultures, in which performed sounds are compared to standardized sounds, and to place performers beyond the reach of such judgments.

It is challenging to change habits. Nonetheless, *Noisy Clothes* was a success in relation to the experiment of freeing ourselves from the frame that solicits predetermined sound making; observations confirmed that the performers probably made their decisions independently of preconceived notions about sound and sound making. Because the instruments used in *Noisy Clothes* did not seem like instruments, we managed to shift the performers' frame of reference from playing an instrument to simply playing around. The boisterous play, laughter, and conversation that went on in rehearsals indicated that the performers were busy discovering rather than judging the sounds they made. For example, the group wearing the Velcro costumes hitched their arms and legs together in complex human-Velcro bundles, bursting into laughter as they disassembled the bundles and heard the result. This example of focusing on discovery showed performers operating outside of sound-focused framing, which begins to suggest answers to the question posed earlier: by focusing on action rather than the action's symptoms, we displaced the event from a preexisting value system. The parallel with painting is that, when the discourse about Pollock's work shifted to focus on action, his marks were no longer judged on the same basis as those featured on canvases that were not viewed as action paintings. Replacing one frame of understanding with another (even if only in a limited set of instances) opens a space in which to question the application of that frame more broadly. In other words, the power of a given frame has been denaturalized.

Conflating instruments with clothes and cross-fertilizing the performers' conceptions of each, *Noisy Clothes* opened a space that promoted play and exploration and, as a result, managed to counteract the tendency to operate according to an idea of a sonic outcome determined prior to any sonic creation. According to my observations during rehearsals, performers discovered sound after carrying out an action: sound was understood as a consequence of movement rather than as an attempt to match an a priori sound ideal, and performers were open to any possible result, sound being only one possibility. This revised conception enabled those involved to access an action-based process rather than a sound-focused music product.⁴²

To summarize, through this performance-based research I realized that shifting frameworks and definitions may illustrate another side of the thick

event. Applying one frame to Pollock's work, we understand him as making precise and premeditated marks that form a deliberate composition; employing another frame, we see the canvas as merely a documentation of the actions that took place. Thinking within one frame about an event, we understand it as a jump; using another frame, we understand the same event as a thumping sound. In a traditional musical context, the latter understanding, which limits our reading of the thick event to its sonic aspect, would serve as a list of desired outcomes for the goals of performance: our goal is to create a sound similar to that thumping sound. The former reading implies something more akin to choreography: our goal is to jump in this exact way. In a third reading, based on the listening pedagogy derived from *Noisy Clothes*, the primary focus is to jump for the sake of jumping, with only a secondary interest in discovering what sonic implications this action presents.

Detaching music making from conventional frameworks can provide an opportunity for the radical rewriting of prevalent notions of sound, listening, and action in relation to cause and effect. Such rethinking would in turn call for reconsiderations of what exactly is involved in sound and music making.⁴³ *Noisy Clothes* gives participants a way to escape the common musical dynamic ruled by a lurking, policing ear, which takes the form of the performer's own knowledge of predefined sounds and of her or his own attempts at sound making within sanctioned parameters. Released from preconceptions, we emerge from the acoustic shadows cast by our very own panopticons' watchtowers. It is this "automatic functioning of power," to quote Michel Foucault, and total autosurveillance that lead to self-regulation, which in turn recognizes and produces only recognized sounds.⁴⁴ The sound-making process itself becomes irrelevant and escapes consideration.

I want to suggest, therefore, that *Noisy Clothes* demonstrates the aesthetic value of the process of sound making, regardless of its final product, by designating any sound resulting from action as music. As in my considerations of *Boomerang* and *SpeechJammer*, we may conclude that the process is never exempt from sound; sound-making bodies are never irrelevant or paralyzed where sound is concerned. That is, aesthetic value is neither tethered to nor hinges on sonic results. Instead, *Noisy Clothes* points toward the line of argument I will develop further in the remaining chapters: any incidence of aestheticization or any other value judgment is contingent on specific material-relational dynamics. Often, it is naturalized parameters of music that mask these material-relational dynamics.

Engaging in music making through naturalized lenses can be counterproductive. First, as we witnessed with *Boomerang* and *SpeechJammer*, the

regulating effect arising from the sonic taxonomy—normal versus pathological sounds—immediately causes us to become less efficient at producing the sound that we have been conditioned to value.⁴⁵ Production is mangled by self-surveillance. Second, because musicians and analysts tend to value music primarily that consists of such standardized sounds, other music—containing other kinds of sound—remains unaccounted for. Third, this selective evaluation prevents us from gaining access to music as a thick event. Music is thought to consist only of a particular sonic end product (not necessarily a given sound, but even just the presence of sound). However, in works like *Noisy Clothes*, corporeal action replaces standardized sound as the most important aspect of music. In this situation, music making becomes an activity that is not restricted by preconceived signifiers.

Body Music: A Chamber Opera without Vocal Cords

Adopting this sense of music making, we may begin to consider more than just gestures and activity located in a discernible area. While perceptions and descriptions of the voice have certainly been used to essentialize the body, as discussed in chapter 1, scholars who have thought through the anatomy of voice in dynamic relationship to repertoire may offer useful perspectives. Additionally, for example, Raymond Knapp and Mitchell Morris outline the inner anatomy of the voice and its relationship to vocal characteristics in specific tessituras, such as chest voice and head voice.⁴⁶ While their reading specifically traces sonic and stylistic characteristics of selected musical theater repertoire, beyond unlocking some of the specifics of the genre, it provides a model for reading vocal stylization through the singer's vocal apparatus and use of the body.⁴⁷ In a related view, David Sudnow offers in-depth reflections on how it might be the body—in his case as a pianist, the hands in particular—that leads music making. While in this example, the gestures of the hands, arms, shoulders and torso are visible, the pianist is still an interesting example for this discussion—first, because there are inner dynamics to which we as audience members are not necessarily privy, but which are key to the nuance of the musician's touch. And second, an important part of Sudnow's argument is that, through practice, the body gains knowledge that at times drives the artist, rather than the pianist commanding her or his hands to play in a given way.⁴⁸ Taking cues from these instructive works and others, my investigation and reading focus on areas involved in singing that are invisible to the naked eye. Building on the work of these scholars and others, I consider the body's movements as actions, and their central role in music making as it takes place through song.

In addition to the indiscernible nature of much of what makes up singing, the second central point of the project that I will discuss is the notion that the ontology of singing is masked by our fetishization of sound. That is, because the vocal cords produce such beautiful sounds, they traditionally get all the attention, misleadingly subsuming the multifaceted collection of events that comprises singing into sound alone. Contrastingly, if we define singing as action, singing can and does happen independently of the vocal cords.⁴⁹ The rippling layers of bodily activity that constitute singing may ultimately be filtered through the vocal cords; however, other mediators can also transduce and communicate the body's activities. Thus, moving considerations regarding singing beyond its various manifestations reveals that the singing body extends beyond that which we conventionally recognize as the vocal instrument.

The piece *Body Music*, the research phase of which forms the final case study I will work through in this chapter, takes to heart the notion that singing is an internal corporeal choreography.⁵⁰ On the basis of concepts derived from *Noisy Clothes*, *Body Music* makes music by composing actions with detailed attention to the internal, invisible choreography that yields vocal sounds. With this piece I began to build a vocal practice around a deliberate shift in attention from the vocal cords to the actions of the total body. Hence, taking to an extreme the premise that music ought to be defined as corporeal action rather than as sonic product, *Body Music* experiments with voice sans vocal cords.⁵¹ (In this chapter I discuss the development of the vocal part only.)⁵²

I asked the Miami-based Colombian composer Alba Fernanda Triana to develop *Body Music* in close collaboration with me. The project's development was experimental, experiential, and process-based. We began the experiments by identifying an inner corporeal vocabulary in biweekly workshops through the fall of 2007. After working independently on the material with only intermittent meetings, we resumed weekly workshops in 2011. I also worked with Pai Chou, an electrical engineer, and Luis Fernando Henao, a programmer and sound designer, to develop the necessary sensors and discover the range of possibilities available for mediating the data we would read from the vocal body. At the production stage, which we will enter in the end of 2015, additional collaborators who have only been involved in the discussion stage thus far—a digital visual artist, a fashion designer, and a dramaturge—will begin to participate more actively.

To create the composition we mapped, analyzed, and finally expanded on the movements and internal activities that engage the singing body. This process was divided into three distinct phases. During the first phase, we observed conventional singing and mapped the activity that flowed into it. In the second

phase, we organized and expanded on the activities we had mapped. Finally, during the third phase, we created the composition with these activities and general processes as starting points. When anyone asks me, I describe the vocal method and its mapping as modifying breath and the breathing process through the study of all aspects involved.

The result of the first phase was to increase our general understanding of the bodily actions and materialities that influence sound. We found that these were divided into voluntary and involuntary processes or activities, and that both groups potentially affect vocal output. Involuntary processes, or physical changes in response to other activities, include changes in the body's heart rate, respiratory rate, sweat rate, and hormonal level.⁵³ Our position echoes Tia DeNora's: "To the extent that music and body are linked, music's properties may come to anchor situations of action. It [sic] may do this by anchoring embodied (and by no means necessarily conscious) practice, including physiological features such as pace, energy, comportment, skin tone, and arousal levels (muscle tone, heart rate, breathing, perspiration, endocrine function)."⁵⁴

We took into consideration the fact that, while we cannot directly govern the heartbeat, overall bodily activity—including breathing and singing—does indirectly influence the heart's tempo. Furthermore, while singers in training are not necessarily trained to manage involuntary processes, the transformational power of those processes over the body has the capacity to influence overall vocal output. Therefore, while we did not have direct control over the body's involuntary activities, because they would influence traditional vocal output (vocal fold signals) we wanted to consider reading them with sensors (in the project's final stage) and using that information as the basis for sonic and/or visual output. In doing so, we hope to show that the vocal cords are only one possible interface that sonorizes the overall bodily activity of singing and the corporeal changes it causes.

The main process we worked with and through was breathing. Situated at the center of singing, breathing is a curious case of combined voluntary and involuntary actions and processes. The voluntary actions and processes related to singing center around breathing and movements that expel air out of the body. More specifically, these voluntary actions are limited to the particularities of inhalation and exhalation, such as tempo and intensity. However, at some point involuntary processes and breath command will kick in, creating a limit for slowness or rapidity as well as intensity. For us, then, involuntary processes and activities came to include the basic and constant cycles of inhalation and exhalation. (In all singing, the characteristics of inhalations and exhalations depend on bodily manipulations and actions.)

During the mapping phase, we began by observing and analyzing bodily activity, deriving from it a breakdown of the minute actions that together comprise singing. These catalogued actions were divided into two categories: (1) actions that move air through the body (in this case, we explored the nuances of inhalation and exhalation, including external forces that could influence the process); and (2) actions that shape the inner membranes and cavities through which air passes, generating various sonic timbres by varying the tautness of the flesh, skin, and membranes. Figure 3.5 presents a summary of the observations we made during our first series of experiments, in which we studied how various physical gestures affected the flow of air through the body. We noted the type of sound that could result from each movement (short or long sounds, for example) and whether or not the sound unit could be easily replicated.

Following the mapping and analysis stage, some of the experiments described in figure 3.5 show our expansion of the processes we first noted. For example, we investigated the many ways in which one may expel air held by the lungs from the body. We explored every movement imaginable that would affect the shape of the lungs. Remaining at rest is one example. Due to overpressure in the lungs, air will automatically escape after an inhalation if nothing is done to prevent it. Another example involves drawing in the stomach, an action that pushes on the internal organs which in turn push on the lungs, causing them to deflate. The resulting sounds ranged from something akin to a violent expulsion of air to something that might recall a sigh.

We also experimented with altering the shape of the cavities through which air passes: essentially the chest, throat, and nasal and oral spaces. Related to these is the energy the body (mass) expends while remaining at rest. The greater the tension in the skin and flesh, the denser the body's overall mass, which when activated will thus produce higher sonic overtones.⁵⁵ Like the head of a drum, facial skin and flesh produce a pitch when one taps them with a finger; again, like that of a drum, the pitch grows higher as the skin becomes tauter. For example, this is in part what allows us to distinguish the voice of someone who is smiling from that of someone who is not. Hence, not only the physical gesture of the smile, but also the energy of the given body mass at rest results in a particular overtone collection. We can also evoke the subtle but stark distinction between two different energy levels if we think about the difference between the vocal sound produced by a person with a spontaneous smile versus a forced smile, with a raised larynx versus a lowered larynx, and at rest versus in balance or during a fall.

Because the overall position of the body's frame makes possible but also limits overall inhalation and exhalation, we experimented thoroughly with the

Formula: A+B=C1+C2

	(A) Air Shapers	(C1) Type Sound		
		Short (one impulse)	ContRep	Cont.
1	Shoulders (arm/hands; torso; neck)			
1.1	Back/Forth [pretty even] (arm; Tremolo)	✓	✓	
1.2	Up/Down [not so even]	✓	✓	
1.3	Circles B/M [not so even]	✓	✓	
2	Arms (shoulders; torso; hands)			
2.1	Punching Front/Back	✓	✓	
2.2	Punching Sideways (Punching Short Forward/Up works good)	✓	✓	
2.3	Punching continuously unidirectional punch (sound becomes bigger)		✓	
3	Legs (torso; hips)			
3.1	Kick Forward/Backward	✓		
3.2	Combined with arms (kick back same arm forward works good)	✓		
4	Abdomen (torso; neck)			
4.1	Panting (all dynamic ranges)			
	In (x1-)(repetition limited by too much air)	✓	✓	
	Out (x 1-)(might be maintained longer due to little inhalations)	✓	✓	
	In-out patterns	✓	✓	
4.2	Inhale (short/long)	✓		✓
4.3	Exhale (short/long)	✓		✓
5	General body			
5.1	Full-body fall (release legs)	✓		
5.2	Step (could include inhalation; arms; push away with other leg)	✓		
5.3	DELETED	✓		
5.4	Jump (inhale, whole body energy, going downwards before going up; exhale, contraction/release)	✓		
5.5	Running (torso, arms, neck; contraction/release; breathing is affected)			✓
5.6	Shaking (whole body)			✓
5.7	Torso moving continuously (less defined; small dynamic range)(arms, neck, head)			✓
5.8	Tremolo	✓	✓	✓
	(B) Filters	(C2) Resulting Sound		
6	Throat (various degrees of openness and tension)			
7	Mouth (throat; jaw)			
7.1	Closed (various degrees of closeness)	✓		✓
7.2	Open			
	Vowels i - e - a - o - u	✓		✓
	Consonants			
	Respiratory s - f - h	✓		✓
	Short, explosive k - p - t	✓		
	Voiced b - d - g	✓		
	j - l - m - n - v - z	✓		✓
7.3	Nose opened/closed	✓		✓
8	Nose (various degrees of openness)(throat; mouth)	✓		✓

FIGURE 3.5 • List of early systematic work on the movements of Body Music (courtesy of the author and Alba Triana).

body's stance. Common ideas about singing relate this category to posture, but our exercises took this idea to an extreme. Any position—including a tightly rolled ball, being at rest, falling, and an expanded posture with limbs and spine stretched out—affects the body in ways that, in turn, affect its sonic range. For example, stance determines the ease or difficulty with which air enters the body. An expanded body allows air to enter easily, while a compressed body requires the movement of body parts and organs to make room for the air. If the body is in a compressed state, when air enters the lungs, which are themselves compressed by the surrounding organs, those organs must move to make room for the lungs to expand. Imagine an empty balloon buried in popcorn. When the balloon is filled with air and therefore grows in size, the popcorn will be pushed away to make room for the balloon's expanded circumference. In other words, while we can offer instructions about breathing, they are limited to the body's frame and posture, which in turn regulates tempo, intensity, and so on.

During our initial mapping and analysis of the various parts involved in and affecting breathing, we played with and, through experimentation, expanded the possibilities for variation in the basic principles. We were most interested in exploring how this continuous alteration could be interrupted or affected. Again, the principle on which we operated was that, while breath is the foundation of song, breathing arises first and foremost from a bodily necessity: the need for air, the vacuum that results when lungs are short of breath, and the physical compulsion to inhale.

Hence, we were building on breath's behavior as a bodily necessity, prior to being altered by the aesthetic demands of song. To this end we worked on various kinds of breathing, first considering what we referred to as the regular breathing pendulum. This is our term for regular breathing that calls no attention to itself—that is, the breath that takes place with regularity even when we do not will ourselves to breathe in a particular manner. We then looked to the extremes of the pendulum, to breathing that is out of the ordinary—in other words, to breathing modes that interrupt ordinary, subconscious breathing. These include deep inhalation, sudden inhalation, and inhalation through pursed lips. We developed a host of such interruptions and observed the exhalation that followed each kind of inhalation. These interruptions included a number of bodily manipulations and actions such as punching the air, kicking, thrusting the torso or entire body forward, pursing the lips, and closing the mouth—all which force air out of the body in a certain way or affect the character of the air flow.

The result is a piece in which the audience sees a performer who inhales and exhales in a variety of extreme ways, carrying out a choreography of sorts

that changes the shape and impact of the torso, neck, and facial areas, all to engage and affect the vocal apparatus sans vocal cords.⁵⁶ Whatever sounds may result from this choreography are extremely intimate: timbrally rich, yet subtle and quiet.

To emphasize what the results of *Body Music*'s inner choreography sound like, though, would be to miss the point of the project: its attempt to reconsider music not in terms of sonic indices, but as the actions that comprise a thick event. Vocal cords' beautiful sound has the capacity to seduce us, but focusing our attention on that sound instead of on the action that produced it, when a notational scheme for that sound gains value, the sound or signifier is similarly reinforced. As I will discuss in chapter 4, when we approach singing as action rather than sound, we free ourselves from many inhibitions formed during our efforts to produce the correct sound, and we produce most sounds with much less effort. As Triana and I discovered, initial attempts to notate *Body Music* exemplified this tension.

This historically close connection between notation and sound caused unexpected problems during the process of notating the piece. In the third developmental phase, composing the piece, there was a period of approximately half a year when we were in constant negotiation over the notation and the way in which the compositional material seemed to transform once it was set in notation and performed from notated instructions. After months of failing to see why we were unable to agree on a notational system, we finally understood that the notational system we knew was unavoidably tied to sound. Thus, the series of divergences in opinions ultimately led to insights into the relationships among voice, action, and notation and how their (hierarchical) relationships are actually mediated by the overarching framing (a topic I will return to in the next section of this chapter).

The notational problem was instantly solved once we understood that when we put *Body Music*'s components into traditional notation and the performer accessed *Body Music* through that notation, he or she reverted back to performance of sound instead of focusing on the actions (see figure 3.6). It is important to note that this dynamic did not arise as a result of notation per se, but rather served as evidence of the values Western notation is asked to address, values that lead to a focus on sonic traces.

After a subsequent period of creating and testing a number of different *Body Music* scores, Triana and I were finally satisfied with a notational system we felt did not treat sonic results as its focal point. While the previous notation system we had worked with conveyed physical instructions and information that was instructions both for actions and for sonic results (dynamics, rests,

The image shows a handwritten musical score for 'Body Music' consisting of seven systems of notation. Each system is numbered and includes a title, a measure number, and a series of arrows and symbols representing breath and sound. The systems are: 1. 'pocopl', 2. 'Suck short 2', 3. 'Deep popa', 4. 'Dennis D', 5. 'Cry', 6. 'Suck long (shining released)', and 7. 'Empty mind'. The notation uses various arrow lengths, directions, and symbols like circles and pluses to indicate breath and sound. Dynamics like sfz, ff, f, mp, and p are used. Some systems include additional notes like 'not sustained', 'very legato no pause (+)', 'pursed lips tight', and 'chest sound mass'.

FIGURE 3.6 • A version of the score for *Body Music* from September 25, 2012. The phrase “Suck short 2” refers to both the fact that this is the second idea of the section, and the manner in which to inhale—with pursed lips. Upward pointing arrows indicate inhalations; downward pointing arrows indicate exhalations. The use of different lengths for the arrows is adapted from the Western notational system for music. That is, at the “Suck short 2” system, the first arrow (with a “flag”) is shorter in duration than the third arrow (without a “flag”) and the second arrow (with a tiny open circle and the plus sign + refer to open or closed mouth, respectively). The syllables at the bottom refer to the approximate sounds produced (courtesy of Alba Triana).

consonants, and vowels), the new score's instructions focus on actions *rather than* the sonic result. The excerpt of the score in figure 3.7 shows inhalations and the actions undertaken while inhaling and exhaling. Thus, rather than the absence of sound, the rests refer to pauses in inhalation and exhalation. The second note (close to a traditional half-note) is about twice as long as the third (close to a traditional quarter-note); the whole-note pauses are approximately four times as long as the quarter-note, and so on (notes indicate relative durations, rather than specific sounds). The arrow and the words *back punch* indicate vigorous backward-thrusting arm movements. Finally, the written words such as *pendulum*, etc. indicate relaxed breathing. These are just a few examples of the ways in which the notation specified actions, yet did not indicate a desired sonorous outcome. Thus, unlike the particular vocal quality and timbral profile that traditionally define the operatic voice, *Body Music* is not defined by a given set of sonorous material.

Body Music's operatic plot revolves around the questions: What is voice? And how does the body voice? Indeed, the project takes seriously the notion of *Gesamtkunstwerk* and the gathering together of multiple sensory experiences within a single form.⁵⁷ And what audiences hear is the sound of the shifting shapes of chest, throat, and mouth and nose cavities and the differences in the speed of the air moving through them. These mechanisms and procedures are the foundations of conventional singing. Unlike conventional listening practices—in which sounds understood to be signifying are front and center, and nonnormative sounds are considered erroneous—*Body Music* attempts to avoid allowing the sounds of the vocal cords to overshadow those produced by actions of the internal organs. That is, with *Body Music Triana* and I aim to emphasize that the human body is always engaged in a vast variety of articulations, some of which happen to result in what audiences have traditionally considered as normative vocal sounds. In this way, *Body Music* sets out to avoid anything that can be used as a sonic signifier, and therefore it focuses only on action. It does so by exploring vocabulary on a microphysiological level, demonstrating that singing, which is normally understood as a form of sound produced by the vocal cords alone, is made up of several kinds of activity.⁵⁸

By decoupling singing from vocal cords, Triana's and my experimentation had led to observations and a greater understanding of the process of singing: singing is action, as our difficulties about the notation showed us. In an interesting twist, the attempted documentation and notation of the piece wiped out those observations. However, the important point here is that it is not notation per se that erased the observations about singing. Rather, it is because the dominant notational system focuses on sound, and therefore the notational

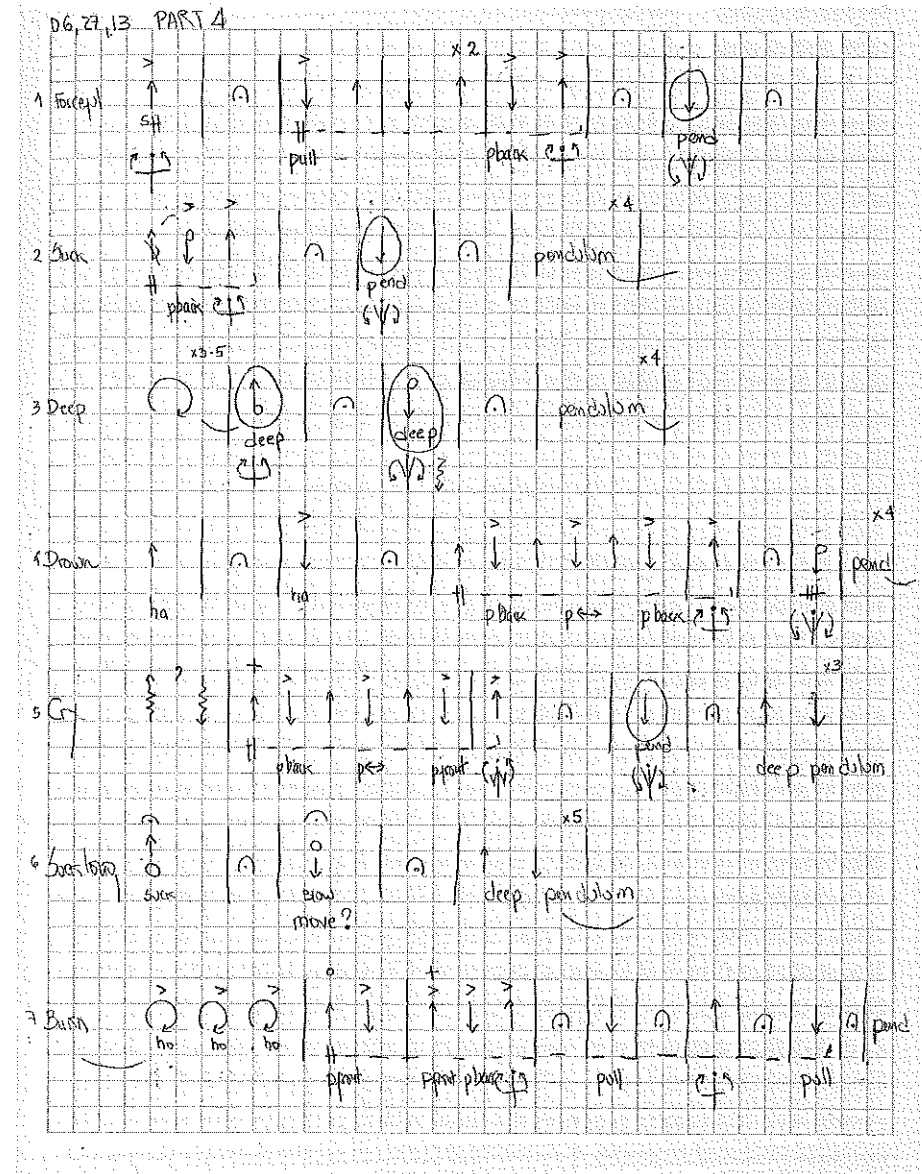


FIGURE 3.7 • A draft from June 26, 2013, of a section of the final version of the *Body Music* score. As in figure 3.6, the phrase “2 Suck” indicates that this is the second idea of the section and the manner in which to inhale (with pursed lips). The upward and downward pointing arrows and the length of arrows here have the same meaning as in figure 3.6. Stick figures indicate arm movements. The letter *b* indicates a punch-like movement backward, moving the arm and fist at the side of the torso and behind the back. Other abbreviations are also movement indicators (courtesy of Alba Triana).

system available to performers and audiences alike allows only sonic dimensions to be expressed.

Any dominant notational system is really just the actualization of dominant discourse. Furthermore, while notational systems allow for and promote a certain mode of thought and reality, sound does not have the capacity to express and think about other dimensions. If performers, composers, and audiences think about this in terms of Clifford Geertz's image of the thick event,⁵⁹ dominant discourse and supporting notation are limited to a few strands of the thick event, while—by necessity—others are not on the observer's radar. This limited selection is then reproduced as reality. To be sure, it is not the notational system per se that produces this limited reality, but the reality felt by singers and other vocalizers is that sound is also a naturalized parameter of voice and music.

How Experience and Meaning Making Are Limited

Musical notation's entry into the compositional process seems to be tethered to working with music through signifiers. When determining distinct units for notation, and when employing notation to contain a musical event, the thick corporeal event is necessarily subject to a reduction. And, as a result, our relationship to the event shifts after we access it via notation. Even in my attempt to work creatively with action to illuminate singing as a corporeal process, the process of notation unequivocally reduced the corporeal event to a relationship between sign and signified. Once sound, merely an extracted component of the thick event of action, was fixed in notation, a reduced and partial aspect of the thick event was frozen. Signification and related notation constitute just one example of the reduction of singing and listening. In the same way that the question about the falling tree is symptomatic of a tendency to ignore—or an inability to comprehend—a thick event, the process of arriving at notation for an event, it seems, threads the experience through the needle's eye of an a priori idea of sound: the part of the thick event that prior values and priorities have rendered notatable. Furthermore, the practical uses of the document tend to perpetuate these reductions. Of prime consideration in the process is the decision about which concepts to connect to the signifier, and how our relationship to that broader event shifts after we access it via the notation of the signifier.

Considering notation in relation to well-known theories of *phōnē* (the voice) inscription, and body, throughout the creation process of *Body Music* we can learn that the dynamic between voice and notation arises from an overarch-

ing paradigm. That is, this dynamic does not reflect inherent relative virtues of the formats of speech or writing, but rather the overarching value system that makes such discussions potent.

The dilemma that Triana and I experienced in *Body Music*, triggered by our conversation about notation, is representative of an ongoing debate. What is the possibility of reporting on the fine details of the thick event and rendering it into meaning? For Ferdinand de Saussure, this process requires a linguistic system, which he argues is most accurately embodied through phonemes; for Derrida, speech and writing are interconnected. With a slight twist, Roman Jakobson concentrates on the arbitrariness of the relation between vocal speech sounds and meaning-making sound units. Let us consider these influential theories below, in relation to the reduction I felt when notation was introduced in *Body Music*.

In broad strokes, Saussure and Derrida disagree on whether the arbitrariness and “unmotivated institutions” of signs deny evidence of any natural attachment between signified and signifier.⁶⁰ If the sign does not arise from any foundational reference to reality, does that mean that no one sign system (for example, speech or orality) is more natural than another (for example, writing)? Saussure suggests that sounds are related more intimately to thoughts than, for example, to the written word. Derrida's critique of Saussure, and Western philosophy in general, was predicated on a particular critique of and skepticism about phonocentrism—the privileging and romanticizing of language's acoustic dimension at the expense of the written. At the base of Saussure's system is the idea of a natural attachment or “natural bond” with sound.⁶¹ That is, grounding language in the body through *phōnē* depends on the assumption that language and experience have an organic—to paraphrase classicist Shane Butler's vocabulary—and privileged relationship to one another.⁶²

More specifically, Saussure posits that, prior to the linguistic system, sounds and ideas were not connected. In other words, before the linguistic system there was no way to evaluate baby babble containing syllables akin to *mama* and *papa*. The overall value system that vocal sounds should signal linguistic meaning—rather than a supposed meaning inherent to each syllable—engenders a pedagogy of listening and the kinds of distinctions that are detectable in listening.⁶³ “In a language,” Saussure writes, “there are only differences. Even more important, a difference generally implies positive terms between which the difference is set up; but in language there are only differences without positive terms.”⁶⁴ Outside a system of contrasting and related sounds—that is, outside the linguistic system—a sound's phonic substance would not mean anything. The introduction of /e/, /i/, /o/, and /u/ makes /a/ distinct as /a/ because of its

distinction from them—hence /a/ becomes /a/ in its negative relation to /e/, /i/, /o/, and /u/. Furthermore, /a/ does not receive meaning unless it is drawn into further difference relationships—for example, through additional vowels and consonants in such combinations as *alpha*, *art*, and *aluminum*. Saussure believed this to be a general principle at the base of all linguistic signs: “A linguistic system is a series of differences of sound combined with a series of differences of ideas.”⁶⁵ The distinctiveness of words, and of the concepts toward which they point, is grasped in independent and negative relationships of difference rather than in conceived, inherent, affirmative relationships that spring from norms within a linguistic system.

While Saussure believes that language’s oral tradition is independent of writing (and that this independence makes the science of speech possible), Derrida is in complete opposition to this idea. Derrida argues that what can be claimed of writing—that it is derivative and merely refers to other signs—is equally true of speech. In the end, Derrida’s critique is that Saussure made linguistics “the regulatory model, the ‘pattern’ for a general semiology,” and that Saussure “for essential, and essentially metaphysical, reasons had to privilege speech, and everything that links the sign to *phōnē*.”⁶⁶ For Derrida, this is a weak assumption. He claims that there are differences in writing that are not detected in speech, and thus the notion that speech and writing are separate is illusory. He believes that writing has been deemed an afterthought by most philosophers to keep their metaphysics intact. Furthermore, Derrida is far from certain that differences actually do exist in the world. If they do not, then writing is a system only, one spun out of conceived differences.

Derrida addresses this question through the *différance/différence* pair, where the only difference is between two vowels, and where written difference is not detectible through speech. He posits that writing is not secondary to orality or experience, but rather at the center of them. That is, words like *sweet* and *sweat* are not learned by attaching them to concepts and things. It is by comparing them to other words—by linking language to language (rather than language to reality)—that we learn to distinguish one from another. *Différence/différence* is an example of speech’s reliance on writing. Furthermore, the pair’s general meaning of *deferral* also refers to the process Derrida identifies: no fixed meaning outside a relational system, because meaning is always already deferred until words are related to one another (the meaning of *hot* is deferred until it is in relationship with *cold*).⁶⁷

While Saussure and Derrida seek to untangle which format has more fidelity in relation to an assumed or imagined reality, Jakobson introduces a perspective that includes consideration of physical action in relation to iden-

tification and notation of a sound unit. Furthermore, while areas in which difference could be detected formed the jumping-off point for both Saussure and Derrida, Jakobson focuses on exposing the arbitrariness between sign and signified through the human anatomy. Jakobson argues that the phonemes that comprise the words *mama* and *papa* are sounds that every young child emits as a result of the anatomical relationship between the vocal and respiratory mechanisms.⁶⁸ When we breathe, air flows in and out of the air tract as well as the mouth. A baby must open its mouth in order to breathe, and it is this very movement that produces the phoneme /ma/ or /pa/. But keeping the mouth open at all times, a position that would yield a vowel sound, would dry out the oral tract. A gesture as simple as closing the lips serves, in part, to keep it moisturized.

Thus the phoneme combinations and signifiers *mama* and *papa* can be conceived not only as words, but also as the voicing of experimentation, play, and the mechanical functions of the body. Jakobson also identifies these sounds in the nasal murmur that often accompanies nursing. He writes: “The socialized and conventionalized lexical coinages of this baby talk, known under the name of nursery forms, are *deliberately adapted to the infant’s phonemic pattern* and to the usual make-up of his early words.”⁶⁹ Hence the presence of such consonant-vowel combinations—in all, 1,072 synonyms for *mother* and *father*—are found in nursery rhymes around the world.

In short, because Jakobson shows that the selection of audible sounds from a thick event, and the subsequent connection of those phonemes with the concepts *mother* and *father*, are effected by a listener who yearns for his baby to signify these ideas in the way he has already signified himself in his relationship to the child, Jakobson elucidates directionality in the process of signification. While the baby is in fact exploring the physicality of the vocal and respiratory apparatus, the father listens intently, taking slivers of the babble to be his interpellation.⁷⁰ The relationships among the vocal sound, the sign (in the form of selected sound segments such as *papa*), the inscription, and the signified are arbitrary. The father himself chooses the sounds /pa pa/ to mean the signified—him—for whom he would like the child to call, and for whom the baby indeed calls with its whole helpless and needy being.

In the same way that the corporeal actions of *Body Music* happened to yield a number of small sounds, some of which were selected, groomed, refined, and chosen for repetition, what we see as the potent words *mama* and *papa* may be viewed as sounds chosen from a sonic field made up of sounds and silences and granted entry to the linguistic realm. In other words, these sounds are chosen to be endowed with linguistic meaning, which moves our ears to no longer

define them as babble but as communicative language. In this process, sounds that result from corporeal necessities and functions are invested with meaning and communicative value. Yet it is precisely because selected sounds are thus invested that vocal performance in *Boomerang* and *SpeechJammer* is thought to be impaired. Each of these theories arises as a result of our interpellation and endowment of a sound or inscription with meaning.

The impulse to select and endow certain sounds with meaning is not random, nor are the selections in question. The impulse and the effort to discriminate and prioritize arise not only from our evolutionary biology—we have needed to pay attention to the human voice over other sounds—but also because, as Butler summed the situation up to me, “people are trained to reify voice as sound.”⁷¹ The most basic value system is the favoring of sounds over the physical events that give rise to them. Secondly, but more often considered and as exemplified by *Boomerang* and *SpeechJammer*, is the question of the types of concepts that are felt to be significant enough within that value system to be signified and concretized through the attachment of a signifier. In this instance, sound’s importance is evaluated according to its strong or weak relationship to a system of signification. And in this model, the production of sound’s meaning is assumed to be located in its hearing (or in the relation between speech and hearing).

But there is another way of thinking about signification in relation to the body’s actions, and about *phōnē* in relation to inscription, that does not rely on fixed, a priori positions or on mutually exclusive categories of originals and copies.⁷² For example, when the word *mama* is mouthed and the mouthing and breath sonorized, it is not only about the word *mama* in relation to the word *papa*, in turn in relation to yet more words. Rather, the physical unfolding of those words—or even a timbral modulation in their pronunciation, or even a timbral modulation that is not attached to a recognizable word—causes physical changes in the speaker or vocalizer, and it is from the sensation of that changed corporeal environment that we build meaning. In turn, as the corporeal circumstance inadvertently leads to sonic vocal events, the corporeal environment can also be affected by enunciations, such as “mama,” “papa,” “cold,” “room temperature,” or “man.” Speech is therefore not arbitrary in relation to meaning making and reality, but neither does it unfold through a casual and nonmaterial chain of relationships between concepts, as outlined by Saussure and Derrida. Needless to say, this diverges radically from the theory that systems of meaning are based on our ability to recognize the differences between /a/, /e/, and /i/.

In relation to *Body Music*, as soon as inner activity was put into notation it

felt as though the piece had been pulled into a different realm. Can we fully understand this tension by analyzing the situation through the relationship between voice and notation? Were we to do so in this specific example, the implication would be that notation had killed voice. While this was the conclusion to which I first jumped, informing my first conversations with Triana, I later came to understand that the tension between body, vocal sound, and notation is not inherent to their relationship. Instead it is an overarching framework that pulls them into a relationship of mutual exclusivity. Difference, then, is defined not only in terms of distinguishing, say, *a* from *e* (as in *pat* and *pet*), but also according to the overarching principles on which the system relies. For example, the designation of sounds as signifying or nonsignifying, or as defined in a negative register in relation to a signified—such as the mispronunciation of a word, a pitch that is out of tune, or what is deemed to be babble—is possible only when we buy into the overall premise of a system of difference.

Because medieval music represents an early stage of Western notation in which tensions between words, notation, sounds, and voices were regularly and explicitly taken into account, its study has proved instructive in considering the complex relationships between sign and signified, notation and performance, and sound and sense. For example, while early notational systems, such as the nondiastematic systems discussed by Leo Treitler,⁷³ were the least prescriptive among the many systems in operation in the Middle Ages, early chant notation was complex and multidimensional. Within this notation and performance practice, the concept of melody was inseparable from the human voice that produced it. In other words, the notational system represented voice.⁷⁴ In these early negotiations between performers, composers, and notation, the mismatched partnership between notatable sound, the senses, and meaning tells of the power of song and music and of how sound, performance practice, and notation can coexist. Importantly, this stage in Western notation shows a relational dynamic that is not premised on a strict notion of fidelity—either fidelity between the notation and the musical rendition or that between the composition and the performance.

Emma Dillon suggests that the effects of performers on listeners cannot be fully grasped through the study of grammar and musical systems alone.⁷⁵ She uses the term *supermusicality* to capture the sound of the singing voice and the work it accomplishes through that sound, which is unique and independent of the composition. It is only by “restoring a singing voice to these texts [that] an uncanny transformation of meaning occurs.”⁷⁶ And it is here that debates about a stable meaning for a sound or inscription implode; here conventional meaning-making paradigms do not suffice. For Dillon, Augustine’s *Confessions*

and *Enarrationes in Psalmos* are instructive for understanding the medieval “anxiety about what singing did to the sound and sense of words”—for example, how a text about chastity could be delivered by a voice that listeners found sensually irresistible.⁷⁷ Indeed, this is one of Dillon’s key examples of supermusicality—that unnamable aspect of voice or music, the attraction and power of which lie beyond the reach of understanding through fidelity to words or music. Augustine’s dilemma “establishes a standard for musical sound in relation to verbal sound and meaning; but when resituated in the larger mediaeval discourse of words, it reminds us of the high ethical stakes of effecting a rift between sense and sound.”⁷⁸ Augustine wrote:

The pleasures of the ear had a more tenacious hold on me, and had subjugated me; but you [Christ] set me free and liberated me. As things now stand, I confess that I have some sense of restful contentment in sounds whose soul is your words, when they are sung by a pleasant and well-trained voice. Not that I am riveted by them, for I can rise up and go when I wish . . . but my physical delight which has to be checked from enervating the mind, often deceives me when the perception of the senses is unaccompanied by reason, and is not patiently content to be in a subordinate place. It tries to be first and to be in the leading role, though it deserves to be allowed only as secondary to reason.

Nevertheless, when I remember the tears which I poured out at the time when I was first recovering my faith, and that now I am moved not by the chant but by the words being sung, when they are sung with a clear voice and entirely appropriate modulation, then again I recognize the great utility of music in worship. Thus I fluctuate between the danger of pleasure [in the music] and the experience of the beneficent effect [of the words], and I am more led to put forward the opinion (not as an irrevocable view) that the custom of singing in Church is to be approved, so that through the delight of the ear the weaker mind may rise up towards the devotion of worship. Yet when it happens to me that the music moves me more than the subject [meaning or truth] of the song, I confess myself to commit a sin deserving punishment, and then I would prefer not to have heard the singer.⁷⁹

For Dillon and Bruce Holsinger, Augustine’s account of listening, which vacillates between the linguistic and the “innately non- or even prelinguistic in music’s flow through the human body,”⁸⁰ serves as a launching point for further investigation into the tension Augustine articulates between “words and their sound, and music’s particular ability to complicate the sound-sense re-

lationship, which clearly has roots in a broader linguistic theory.”⁸¹ For Dillon this exemplary point of tension serves as a poignant illustration of her sense that music has the “capacity to unsettle words.”⁸²

I understand Holsinger’s interpretation of Augustine slightly differently from the way Dillon understands it. For Holsinger, the “pleasure of the ear” (*voluptates aurium*) is not dynamically pitted against “truth” or “meaning” (*cantus, quam res*). Rather, in Holsinger’s words, “the human body represents . . . the very ground of musical experience.”⁸³ Rather than being complicated by the flesh, “musical sonorities” are indeed “practices of the flesh.”⁸⁴ Indeed, for Holsinger, music at its root is not divided into sense versus pleasure. It is only value systems (as personified by Augustine’s painful and pleasurable listening) that can split music in this way.

The relationship between a song’s words and a sound’s composed melody, or the sound of the voice and our experience and understanding of it, boils down to questions about what the experience of music is. These questions, as posed by Holsinger and as considered in *Body Music*, include: “What is it to ‘experience’ music? Where and how is music located vis-à-vis the persons who listen and react to it? How do we approach music as a sensual, passionate, and emotional medium, and how might we account for its widely varied effects on and interactions with human bodies?”⁸⁵ In contrast to a focus on words, speech, and writing, I consider my work with *Body Music* through Holsinger’s evocative questions. I suggest that if we reframe musicking’s core, understanding it as a constellation of corporeal activities and sensualities, we accomplish nothing less than a reconfiguration of the body’s position in relation to sense and meaning making.

Emphasizing signifying sounds, as a semiological context begs us to do, skews the reality of the full event that is music and voice. In this context, sounds are selected, isolated, notated, and repeated. And in this dynamic, sound appears as the primary point, with the body and its actions—which create the sound—considered to be mere afterthoughts. That is, the body and its actions are considered as what Derrida—taking the term from Jean-Jacques Rousseau—calls supplements. Rousseau saw a supplement as “an inessential extra added to something complete in itself.”⁸⁶ A supplement, then, is that which is secondary because it serves as an aid to something original or natural. Derrida offers writing as a prototypical example of this relationship: “if supplementarity is a necessarily indefinite process, writing is the supplement *par excellence* since it proposes itself as the supplement of the supplement, sign of a sign, taking the place of a speech already significant.”⁸⁷ What characterizes the supplement, then, is its double function as both “substitution and accretion.”⁸⁸

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Among the consequences of such misjudgments regarding “that which is complete in itself” and the supplement is our inability to fully account for the power of voice, sound, and music. In short, because we have been preoccupied with the codified sound, when a full event does not align with signifying sound schema, we do not recognize it as, say, music, and do not account for the effect it nonetheless may have on us. We listen for sound and are oblivious to the action. This omission leads me to wonder whether Rousseau’s idea of originary lack—the notion that, by definition, a supplement is incomplete—is a result of semiological logic that excises selected sounds from the thick event and codifies them, with a profound result. However, what if vocal sounds were no longer made in the service of signs? What if words, music, and writing are supplements to something, but not fundamentally to signs? Add to this the idea that voice reflects experience, for example in its “grain,” to use Roland Barthes’s term.⁸⁹ Do these questions point to the impossibility of complete calibration within a semiotic system, an idea that the notion of supermusicality captures?

Looking to Jakobson and, to some extent, to Saussure and Derrida in an effort to understand and untangle the tension brought by notation into the process of composing *Body Music*, I recognized that it was not notation per se that had pulled the piece away from my prenotation intentions. The distinction, then, is not about the mode or format in which the most refined level of difference can be detected, bringing us closest to the original. In considering Derrida and Saussure, I realized that they both work on the same axis, dividing original from copy and the true from the derivative. Jakobson and scholarship on early negotiations of the relationship among words, music, sense, and notation led me to consider the value systems and principles that beg for relative fidelity to an a priori signified. As noted at the outset of this discussion about notation, these principles are not devised from the presumed virtues of the formats of speech or writing. Instead, they are derived from the values of the overarching paradigm, a paradigm that produces vocalization and listening that aspire toward fidelity.

In summary, we see that there are vastly different answers to the question of the relationships among action, sound, and notation—answers that point toward the challenges of establishing a hierarchy of those relationships. In a situation in which the mouth opens and closes, an utterance can be noted as /pa-pa/, the utterance is taken to signify paternal caretaker, and it is inscribed as “papa,” many would single out the mouth’s opening and closing as the surplus—that which was supplemental to “that which was complete in itself.” From this perspective, the process of sounds forming words is under-

stood as “that which is complete in itself.” However, I suggest that such a view expresses a misunderstanding of what fundamentally takes place in the exchange between father and son, or in any other vocal exchange. I suggest, as in the meeting with Pollock’s work, that “that which is complete in itself” in the exchange between father and son is not the expression of the action (which is understood through the filter of a form of codification), but the recognition of the baby’s action.

To hint at what I will develop in the following chapters, I believe this tension comes from asking misguided questions about the material at hand. These types of questions arise from a logic that is driven by what I have called the figure of sound, which assumes that there is a standard, an a priori, against which to measure a given sound’s or inscription’s fidelity. Recalling how Rebecca Lippman’s question (in the introduction) about the beginning and ending of a sound falls short within a framework of vibration and propagation, I suggest that a strategy establishing a hierarchical relationship between sound and notation—focusing on which captures difference more accurately—falls short within the investigation of music, voices, and human-made sounds. This frees us to ask: What if words and their sounds are supplements of something else—but not of an experience that awaits naming? Furthermore, what if we imagine sound, as *Noisy Clothes* suggests, as merely subsequent to and supplemental to action?

From Identifying A Priori Sound to the Process of Listening

In attempting to move toward a response to these questions, my own strategy lies in interrogating the distance between the experience, choreography, and anatomical action of voice, whether in purposeful linguistic or nonlinguistic utterance. In the same way that writing is a physical imprint and an impression of the writer, vocalization leaves a physical imprint and impression not only on the listener but on the vocalizer herself or himself.⁹⁰ That is, vocalization is both activity and experience, and any meaning we might derive from it is not separable from the experience. The specific word or sound communication *mama* might arise from a child’s delight over seeing her caretaker, but it is equally likely to result from twice parting the lips while exhaling. Though on the surface the mimicosomatic reaction of lips and breath might be seen as reaction rather than communication, both iterations are equally communicative about that moment in time.

I propose that it is the action of voicing and the experience of voice that give rise to an inner corporeal landscape, which forms the basis of experience and

meaning making.⁹¹ In this case, it is the lips parting and the exhalation that express the child's situation at that moment in time. When we observe that speech or vocalization is never detached from bodily experience, we can no longer maintain that writing is a supplement of speech, which itself is imagined as a supplement of experience. Thus the meaning that arises for the above utterance, for example, is not an a priori meaning derived from the experience that is rendered through speech and/or writing—it is a report of the experience itself. The vocalization triggers an experience, which in turn creates the ground for experience and the meaning we derive from it.

Because of the misleading focus on the voice's sound, attempts at understanding and mapping meaning production related to voice have led to much misunderstanding. It is not only that the meaning to which this focus seems to point is a supplement, but, I will suggest, even the sound itself is a supplement. Shifting the focus back to the experience as producer of sound and, therefore, unmediated meaning helps us avoid these misunderstandings. Specifically, sound has been so powerful and seductive that it has directed our attention away from that to which it is indeed only supplemental: the action of the body.

Multisensory physical activity—including vocal sounds and speech—is experience. Affect and meaning are derived from that full experience. However, as we have seen in *Boomerang* and *Body Music*, we seldom allow the physical activity that sometimes is manifested through vocal sounds to exist without a constrained relationship to systems of signification. That is, if the vocal sounds do not conform to these systems, they are defined by a negative relationship to a given system's valued parameters: they are considered babble or out of tune. By placing sound at the core of a multifaceted event that includes physical activity, corporeal changes, and the sounds that arise therefrom, we unfairly impose inappropriate evaluative criteria on those sounds. For instance, the sound of the voice, and the way in which the instinct to notate renders listening selective, has seduced us into believing that the power of voice lies in its sound, while in actuality the sound is merely the tip of an iceberg, the entirety of which shifts us into affective states.⁹² Singing happens before the sound; it is the action that produces the sound. Listening, then, takes place in the shared activity of singing—the shared actions of moving and being moved.

This perceptual shift away from considering voice as defined by its sound (and its relation to meaning) to voice's action and the action's physical impression on the audience's body calls to mind the perceptual shift invoked by Pollock.⁹³ His focus was on the motion rather than the motive, when he said: "A method of painting has a natural growth out of a need. I want to express my feelings rather than illustrate them."⁹⁴ Pollock assumes that manifestations of

his being in the world, including the dripping of the paint from the brush held by his hand, are extensions of him and thus his direct, rather than indirect, expressions routed via signifier and its signified. What takes place as a result of the physical configuration of his body—the paint dripping from the brush held by his hand, which extends from the trunk of his body—is reconsidered apart from its prior designation as accident, spillage, or waste; it becomes gesture and therefore communicative in the same way that the oral gesture we hear as "mama" is communicative. Pollock pulls into the center that which is normally seen as accidental, because it is without a priori meaning.

Reading these scenes via Jakobson's work on "mama" and "papa" and scholarship on medieval performance practice's relation to notation, I have attempted to tease out the notion that vocal sounds, like dripping paint, arise out of the physical conditions we find ourselves navigating. Turning conventional wisdom as well as theories of sound and semiology on their respective heads, the mark that the paint happens to cause, and the sound that the complex physical activity that the voice happens to manifest through its vibrating vocal folds, are not the self-sufficient system of the natural presence but the surplus, or "an inessential extra added to something complete in itself."⁹⁵