

**Answering Machine, Auto-Tune, Spectrograph:
Queer Vocality Through Sonic Technology**

by

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B.A. Anthropology, Amherst College, 2012

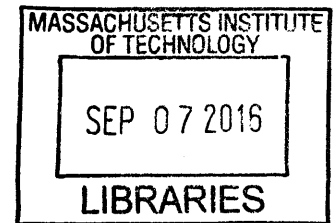
Submitted to the Program in Comparative Media Studies/Writing
in Partial Fulfillment of the Requirements for the Degree of

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Abstract

In academic and activist contexts, “voice” has long served as shorthand for inclusion, empowerment, and the like, occasioning bromides about having or not having a voice, giving voice to the voiceless, breaking the silence, and speaking truth to power. Such metaphysically inflected phrasings often serve to reinforce a binary between sound and silence at the expense of attending to other vocal modulations. This thesis first assembles calls by queer and feminist scholars for such nuanced portrayals of vocality; then, so as to answer those calls, it stages scenes of listening. I examine vocality through technology: by looking at how vocality is structured by enclosing technologies, which in turn structure relations and the reverse. More specifically, my thesis traces the ways in which vocality travels in the world by attending to three particular technologies through which the voice is filtered: the answering machine, Auto-Tune pitch correction software, and the sound spectrograph. This approach enables me to probe the distinct claims that specific sound technologies allow us to hold on one another—claims about mourning and loss, about calling and the promise of response, about the identification of individuals (or oneself) via the voice. Though my investigations span various archives, I center them on two characters: the performer Cher and her son Chaz, who is transgender. I do so to consider the ways in which a sonically inflected media theory can inform queer theory and vice versa, and to consider the particular relational dilemmas made incumbent upon subjects whose vocal trajectories are discontinuous, depart from normative pitch, and/or deemed an invitation to violence.

Thesis Supervisor: Eugenie Brinkema
Title: Associate Professor, Literature

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Queer Vocality as Evidence: Introductory Notes

A few voices reach us from the conversation known as Queer Theory:

“In his marvelous live performance of ‘You Are My Friend,’ a cover of a Patti LaBelle song, [the disco queen] Sylvester sings the high part of the song and leaves the low and growling bass to his ‘friend’ Izora [...] The falsetto also shifts the scale of gender and creates a soundscape within which all the voices sound queer. [...] Sylvester, Martha, and Izora do not wear their drag, they sing it.” - Jack Halberstam¹

“...[ACT UP] implies that if Silence = Death, then speech equals life...The paradox of the signifier for ACT UP resides in the disjunctive effect obtained by the breaking of silence, for speech divides its speaker such that the subject’s every effort at representation is, in part, a failure—indeed, it is this very failure that constitutes the subject” - Tim Dean²

“The cold within him froze his old features, nipped his pointed nose, shrivelled his cheek, stiffened his gait; made his eyes red, his thin lips blue; and spoke out shrewdly in his grating voice” - Charles Dickens via Lee Edelman³

“We can hear what is at stake in how women who speak out are heard. To sound strident is to be heard as loud, harsh, or grating. Some styles of presentation, some points of view, are heard as excessively and unpleasantly forceful. You know from what you are called. You know that other voices can be saying the same thing over and over again, even saying those things loudly, and not be heard as strident.” - Sara Ahmed⁴

“The querying tonal uplift at the end of a statement not grammatically a question is not just a tic but a demonstration of a *something* that isn’t shared yet, but could be.” - Lauren Berlant⁵

² *Beyond Sexuality* (Chicago: University of Chicago Press, 2000), 115.

³ *A Christmas Carol*, (London: Chapman and Hall, 1843), in Lee Edelman, *No Future* (Durham: Duke University Press, 2004).

⁴ *Willful Subjects* (Durham: Duke University Press, 2014), 153-4.

⁵ “Starved,” in *After Sex? On Writing Since Queer Theory*, ed. Janet Halley & Andrew Parker (Durham: Duke University Press, 2011), 85.

Halberstam detects the way in which defiance of normative arrangements of pitch, like Sylvester's, can make onlookers lose their bearings. Edelman's key sinthomosexual, Scrooge, shows his sonic symptoms. Tim Dean teases out a key tension between two different talking cures, the analyst's and the activist's, that comprise queer theory's divided vocal parentage. Sara Ahmed strides right through what is at stake in allegations of vocal harshness or stridency. Like the uptalk Berlant talks up, these moments in queer-theoretical conversation were not posed as questions. Counterposing each other, though, they come to sound that way, to glean some of that questioning tone, to appear poised for possibility, that possibility being "not just a tic but a demonstration of a *something* that isn't shared yet, but could be"—that shared thing being voices themselves.

The call for sonic analysis has long been audible in queer theory, if at times too faintly. In *The Epistemology of the Closet*, Eve Sedgwick muses, "[W]hat distinctive soundings are to be reached by posing the question our way — and staying for an answer? Let's see how it sounds."⁶ In practice, though, analyses of queer soundings have tended to the linguistic, discursive elements of queer voices, which, as Andrew Anastasia notes in the inaugural issue of *Transgender Studies Quarterly*, "relegates the embodied voice to a service role of rendering audible the coherent thought [...] Voice, as a keyword for the next generation, demands that we listen, like musicians, to the voice qua voice—not merely as the message."⁷ In answering their calls, those of us on the receiving end

⁶ (Berkeley: University of California Press, 1990), 52.

⁷ Andrew Anastasia, "Keywords: Voice," *Transgender Studies Quarterly* 1, no. 1-2 (2014): 262.

may find reason to challenge our (received) understandings of how subjects (audibly) cohere.

So as to take those calls, this thesis stages scenes of listening. I examine vocality through technology: by looking at how vocality is structured by enclosing technologies, which in turn structure relations and the reverse. The aim of this introductory essay is to elaborate some importances of sonic analyses for queer theory, points further borne out in the following chapters, which take up two specific technologies, the answering machine and the sound spectrograph, and their implications for queer life. By standing for the side of speech here, I do not mean to recapitulate the metaphysics of spoken presence Derrida and others have roundly critiqued, wherein living speech is set against dead writing. Instead, I show that notions of liveliness and loss have more complex histories within sonic technologies, which contain their own logics of what will deaden or enliven the voice.

I write here in the associative, aleatory mold of Munoz's "Queer Ephemera as Evidence," finding in that essay a useful model for my own because voices, like the performances Munoz attends to, writhe in the space between their own ephemerality and efforts to pin them down. In citing works like Marlon Riggs' *Tongues Untied* and *Black Is, Black Ain't*, and in describing how, rather than "being clearly available as visible evidence, queerness has instead existed as innuendo, gossip, fleeting moment, and performances," Munoz himself alludes to vocality's important perch in the performance landscape.⁸ Elsewhere, however, he struggles to wrest vocality from its discursive

⁸ Jose Esteban Munoz, "Ephemera as Evidence: Introductory Notes to Queer Acts," *Women and Performance* 8, no. 2 (1996): 6.

connotations, writing, “In the spirit of queer acts, I am less interested in telling readers what the performatively polyvalent writings that follow *say*, and more invested in gesturing to the work that these writings *do*.”⁹ That saying and doing are still so often rhetorically opposed, even a half-century after J.L. Austin’s speech-act theory, or used as shorthand for the discursive writ large, poses a significant challenge to work on vocality.¹⁰

The friction produced by ephemera and their enclosing archives informs my choice of characters as well. Much of this thesis revolves around the musician Cher and her transgender son Chaz, both queer icons in their own right, and both chronologized by different avowals of that queerness. Chaz, née Chastity, was outed by the tabloid press as a lesbian in the early 1990s, then reentered the spotlight when he came out as a transgender man in 2009. Upon getting a legal name change, Chaz took Salvatore as his middle name in honor of his late father Salvatore “Sonny” Bono. In the 1960s and 70s Sonny and Cher’s checkered lives (and by checkered I refer simply to their outfits; see Figure 1) were a rebuke to the “squares,” as Cher often phrased it in those early days. After splitting up as a musical and marital duo in 1974, Cher and Sonny both maintained their notoriety, albeit in divergent ways: Cher continued her musical career, singing in her distinctive contralto voice and pioneering the pitch-correction software Auto-Tune in her 1998 song “Believe.” Sonny Bono went into politics, becoming mayor and then congressman for Palm Springs. In the latter role, he cosponsored the Defense of Marriage

⁹ Ibid., original emphasis.

¹⁰ Austin, J. L., J. O. Urmson, and Marina Sbisa, *How to Do Things with Words* (Cambridge, MA: Harvard University Press, 1975.)

Act, two years before he died in a ski accident. At the time, Chaz was an out lesbian, at work on a book about coming out to one's family, released in 1998 as *Family Outing*.

Both Cher and Chaz wrestle with the archiving of their own voices, in records and in recorded outgoing messages, with their own malleable identities (always changing faster than archives can capture), and with “the scrutinous context into which trans people come out” (to quote Tey Meadow), a scrutiny Cher has long inhabited.¹¹ Both Cher and Chaz navigate efforts to pin down their identities through their vocalities, or to tie their tongues. The way the language of selfhood and of loss works among them shows itself to be swept up in broader currents, as does the notoriety of the media artifacts with which they are associated.



(Figure 1: Sonny & Cher; Goodall 1993)

Cher and Chaz both wrestle with queerness in particular: Four years before receiving an Academy Award for Best Actress for *Moonstruck* (1987), Cher played a

¹¹ Tey Meadow, “Gender's Failure = Gender's Truth,” *Public Books*, 2015, <http://www.publicbooks.org/artmedia/virtual-roundtable-on-transparent>.

lesbian in Mike Nichol's *Silkwood* (1983); Chaz played a lesbian named Chastity for much of his adult life; others often play Cher in drag. Cher's avowed preference for younger men comprises her own genre of romantic queerness, but her status as a queer icon has been fraught by her fraught reaction to [both of] her child's coming-outs; at times, Chaz's status as a queer icon is similarly fraught by his embrace of normative becoming stories.

Touching Feeling, Touching Hearing

Much of what sonic analysis has to offer queer theory is simply a heightened alertness, or a surfacing of observations already latent. If it is true, as Joseph Litvak has written, that "Sedgwick is a comic critic as Proust is a comic novelist," she is undoubtedly a sonic critic as well, and Proust a sonic novelist.¹² In *Remembrance of Things Past*, M. de Charlus' own voice gives the lie to his fear of effeminacy:

His voice itself, like certain contralto voices in which the middle register has not been sufficiently cultivated, so that when they sing it sounds like an alternating duet between a young man and a woman, mounted, when he expressed these delicate sentiments, to its higher notes, took on an unexpected sweetness and seemed to embody choirs of betrothed maidens, of sisters, pouring out their fond feelings. But the bevy of young girls whom M. de Charlus in his horror of every kind of effeminacy would have been so distressed to learn that he gave the impression of sheltering thus within his voice did not confine themselves to the interpretation, the modulation of sentimental ditties. Often while M. de Charlus was talking one could hear their laughter, the shrill fresh laughter of schoolgirls or coquettes quizzing their companions with all the archness and malice of clever tongues and pretty wits.¹³

¹² "Sedgwick's Nerve," in *Criticism* 52 no. 2 (2010): 253.

¹³ Marcel Proust, *Remembrance of Things Past*, trans. C.K. Scott Moncrieff and Terence Kilmartin (New York: Vintage Books), 1982. Also cited in Lawrence R. Schehr, "Gaydar: A Proustian Anatomy of Cruising," *Proust in Perspective: Visions and Revisions*, ed. Armine Komin Mortimer & Katherine Kolb (Champaign: University of

Much pleasure can be found in sound: Charlus himself is undone by the sonic stylings of the young violinist Charles Morel, with whom he conducts an affair; elsewhere, Swann moons over a certain Vinteuil sonata, whose presence he feels “like that of a protective goddess, a confidante of his love, who, in order to be able to come to him through the crowd and to draw him aside to speak to him, had disguised herself in this sweeping cloak of sound.”¹⁴ Alongside its pleasures, the voice comes with certain perils for queer subjects, for the voice, as in Charlus’ case, has often been a privileged tell *of* queerness. It has also been a privileged site of telling queer subjects off, as in Sedgwick’s analysis of the admonition “Shame on you!”¹⁵ At the same time, concerns about queer voices have often historically been subsumed under other schematics: vocal sibilance becomes part of sissiness or swish, for example, and its distinctiveness risks disappearance.¹⁶

Heather Love writes that Sedgwick’s passage on “Shame on you!” begins by locating shame in the “outer reaches of exile”; “Sedgwick brings it back into the fold”—

Illinois Press, 2002), 182.

¹⁴ Ibid., 493-495.

In the collection of Sedgwick’s final essays, *The Weather in Proust* (Durham: Duke University Press, 2011), she cites this latter passage.

¹⁵ Jane Hu, “Between Us: A Queer Theorist’s Devoted Husband and Enduring Legacy,” *The New Yorker Online*, 2015, <http://www.newyorker.com/books/page-turner/between-us-a-queer-theorists-devoted-husband-and-enduring-legacy>.

“A speaker at the conference noted the shocking disjunction between Sedgwick’s quiet speaking voice and the bold statements she made in print,” Hu writes; *Rolling Stone* famously called her the “soft-spoken queen of gay studies.”

¹⁶ See Craig Loftin, “Unacceptable Mannerisms: Gender Anxieties, Homosexual Activism, and Swish in the United States, 1945-1965,” *Journal of Social History* 40 no. 3 (2007), 577-596, for a representative example.

where it sits, we might add, rather comfortably today.¹⁷ Folding is a resonant term for any discussion of the voice and the methodological problems it poses: while the apparatus for speech is colloquially described as the vocal cords, linguists prefer the vocal folds. Swapping cords for folds swaps as well a metaphor of a tether running from one to another for a more complicated set of orientations indicated by folding. One issue indexed by this terminology is the way in which vocality may enfold other senses as well. Henry James, as Kate Thomas notes, observed the “queer extensions” of the body that new communications technologies enabled as solutions to the problem of being “out of touch”—speaking and listening, in this view, act as proxies for touch, like the “sweeping cloak of sound” over which Swann swoons.¹⁸ Here Sedgwick’s formulation of “touching feeling” becomes “touching hearing,” or vice versa.¹⁹

Such sensory enfoldings similarly pepper writings on affect. In the introduction to *The Affect Theory Reader*, Gregory J. Seigworth and Melissa Gregg assert affect’s “immanent capacity for extending [...] both into and out of the interstices of the inorganic and non-living, intracellular divulgements of sinew, tissue and gut economies and the vaporous evanescences of the incorporeal (events, atmospheres, feeling-tones).”²⁰ They elaborate further:

¹⁷ *Feeling Backward: Loss and the Politics of Queer History* (Cambridge: Harvard University Press, 2007): 106.

¹⁸ Kate Thomas, “On Being Too Slow, Too Stupid, Too Soon,” in *After Sex?*, 71.

¹⁹ See Dana Luciano, “Nostalgia for an Age Yet to Come: Velvet Goldmine’s Queer Archive,” in *Queer Times, Queer Becomings* (124-151) for an apropos discussion of graininess and vocality in the filmography of Todd Haynes.

²⁰ (Durham: Duke University Press, 2010), 2.

Affect arises in the midst of in-between-ness: in the capacities to act and be acted upon. [...] That is, affect is found in the intensities that pass body to body. In fact, it is quite likely that affect more often transpires within and across the subtlest of shuttling intensities: all the minuscule or molecular events of the unnoticed.²¹

These “vaporious evanescences,” these “intensities that pass body to body,” “into and out of the interstices”—do they not sound a bit like voice? And if they are not limited to the voice, theorizing the voice specifically—its range, its motions—might tell us something about how affect travels, or how it carries.

One helpful route forward that vocality—its gradients, its allegiances with other senses—points toward is that of dismantling the longstanding, metaphysically inflected binary between sound and silence. Contrary to the bromides with which we describe politics as a voice-maximizing process—giving voice to the voiceless, breaking the silence, speaking truth to power—and the way certain queer slogans, like ACT UP’s SILENCE=DEATH, privilege speech, the refusal or erasure of vocality can be a powerful instrument.²² (I attend to it specifically, with the erasure of a voice on an answering machine, in Chapter 1.) It is, moreover, a variegated one: Sedgwick thinks with Foucault’s observation that “there is no binary division to be made between what one says and what one does not say; we must try to determine the different ways of not saying

²¹ Ibid., 1.

²² Similarly, the GLSEN’S Day of Silence, on which queer people and their allies forego speech for a day, and which is popular among high school students, suffers from a certain confusion about whether or not silence is salutary. Describing its aim as “using silence to protest the actual silencing of LGBT people due to harassment, bias and abuse in schools,” it proclaims, “Silence can create change!”—yet the original silence would not in their view suffice for that purpose; there is an effort to distinguish between types of silence, as Sedgwick suggested, but a paucity of language with which to do so.

such things” to note that silences, like all voicings, “accrue particularity by fits and starts.”²³ There are many ways a voice can modulate or break; when we judge the most pertinent one to be a binary shift between sound and silence, we fail to see how vocality “accrue[s] particularity” through a more granular system of breaking in, out, off, up, and through. Plucking a few notes from Eugenie Brinkema’s composition on the subject, the classic opposition between sound and silence offers “enargeia to metaphysics’ language of presence and absence;” in such a regime, sound and silence quickly become reversible, with silence too standing in for plenitude, orienting us “toward an ideal state of pure,

²³ Michel Foucault, *The History of Sexuality, Volume I: An Introduction* (New York: Pantheon, 1978), 27; cited in Sedgwick, *Closet*, 3.

In their introduction to *Embodied Voices: Representing Female Vocality in Western Culture* (Cambridge: Cambridge University Press, 1996) quotation on 1, Leslie Dunn and Nancy Jones forcefully detail the difficulties for scholars interested in the sonic/acoustic dimensions of women’s voices:

Feminists have used the word “voice” to refer to a wide range of aspirations: cultural agency, political enfranchisement, sexual autonomy, and expressive freedom, all of which have been historically denied to women. In this context, “voice” has become a metaphor for textual authority... This metaphor has become so pervasive, so intrinsic to feminist discourse that it makes us too easily forget (or repress) the concrete physical dimensions of the female voice upon which this metaphor was based.

Pooja Rangan’s recent essay “In Defense of Voicelessness: The Matter of the Voice and the Films of Leslie Thornton,” *Feminist Media Histories* 1 no. 3 (Summer 2015): 95-126 (quotation on 98) similarly critiques notions of “having a voice.” Drawing on Rey Chow’s analysis of Fanon, she explains how Fanon’s account of vocality complicates Althusserian interpellation, and briefly notes a common scenario of vocal abnegation for trans subjects:

Whereas the prospects of subjecthood are wide open with optimistic possibility in Althusser’s account, thanks to the anonymous pronoun of ideology’s hail (“Hey, you there!”), the anonymity in Fanon’s scenario is of a reduced, abjected quality in that the “you” in question has been qualified by the barbed nouns of explicit hate speech: “Negro”; “Dirty nigger.” In today’s more common scenarios, the pronoun itself may instead be laced with such implications.

absolute silence” and secreting “the pathos of the inexpressible or the fullness of that which is beyond or has been excluded from (historical) expression.”²⁴ In short, discourse about silence is as quick to idealize that which is thought to lie beneath sound—“beneath,” in Maurice Merleau-Ponty’s representative phrase, “the chatter of words”—as it is to bemoan silence.²⁵ But remaining with these limit cases (of which there turn out to be no cases at all)—sound and silence; plenitude and plenitude—distracts from the voice’s more plentiful modulations. Take John Cage: often taken as the cipher for debates on silence because of his reflections on time spent in Harvard’s anechoic chamber, Art Blake unwinds a more complicated history of Cage’s rather queer voice, as heard on compositions like *Indeterminacy* and aired as an open secret on Cold War-era game shows.²⁶ The history of Cage’s indeterminate voice provided Blake solace during his own vocal transformation as a transgender man, but has been buried beneath the more standard narratives about Cage’s voice.

Heather Love’s *Feeling Backward* is an important example of how sound both resists binarization and standardization in practice. I turn to it not in the spirit of singling-out for critique, but to admire the multiplicity of voices that suffuse her text, and because of the importance of Love’s arguments about mourning and pastness for my own analysis of a disappearing voice in Chapter 1. As with *Touching Feeling*’s sonic dimensions (a

²⁴ Eugenie Brinkema (with composition by Evan Johnson), “Critique of Silence,” *differences* 22 no. 2-3 (2011): 217, 213, 221.

²⁵ Maurice Merleau-Ponty, *Phenomenology of Perception* (London: Routledge, 1962), 184.

²⁶ This gloss comes from Art Blake, “Finding My Voice While Listening to John Cage,” *Sounding Out!*, February 23rd, 2015, <https://soundstudiesblog.com/2015/02/23/finding-my-voice-while-listening-to-john-cage/>, in turn a gloss of a forthcoming article.

work to which *Feeling Backward*'s own title and content reaches back), *Feeling Backward* often comes to seem like hearing backward. Sounds leak in from all quarters: There is Renée Vivien's translation of Sappho's sighs and death-cries: "Because those who are born after us in this world / Filled with death-cries will cast their sighs / Toward me."²⁷ There is the call of the sirens, ventriloquized by Adorno and Horkheimer's Dialectic of Enlightenment, in turn ventriloquized by Love: "The Sirens are the repository of historical memory, but to answer their call is to be destroyed."²⁸ There is a wish for "some historical 'other' place where "the unspeakability" of same-sex love "can gain audition."²⁹ There are gay voices that figure pleasures out of reach:

[A]s I stood alone on the island, in the sea-breeze, suddenly there came a sound of distant voices; gay voices and laughter from a pleasure-boat that was going seaward full of boys and girls. I knew, as if she had told me, that poor Joanna must have heard the like on many and many a summer afternoon³⁰

Willa Cather meets queer predecessors Jewett and Fields, and recounts, "We talked in low voices." There is a lot of talking in low voices.

In a particularly striking scene from Radclyffe Hall's 1928 novel *The Well of Loneliness*, queer history is figured as a history of voices.³¹ Love writes that "stigma,

²⁷ Renée Vivien, "Dans les lendemains," *Oeuvre poétique complète de Renée Vivien, 1877-1909*, ed. Jean-Paul Goujon (Paris: Régine Deforges, 1986), 164, in *Feeling Backward*, 35.

²⁸ *Feeling Backward*, 9

²⁹ Christopher Shaun Nealon, *Foundlings: Lesbian and Gay Historical Emotion Before Stonewall* (Durham: Duke University Press, 2001), cited in *Feeling Backward*, 34.

³⁰ *Ibid.*, 96.

³¹ (New York: Anchor, 1990.)

though it is a social experience, appears to emanate, as if naturally, from Stephen's body;" the figure, or medium, of these emanations is the voice. At the book's denouement, protagonist Stephen Gordon (an invert, in the parlance of the time) is confronted with a "ghostly procession of the inverted."³²

Oh, but they were many, these unbidden guests, and they called very softly at first and then louder. They were calling her by name, saying: "Stephen Stephen!" The quick, the dead, and the yet unborn—all calling her, softly at first and then louder.

As Love summates, "The collective voice of these lost brothers rings through Stephen, 'a demand like the gathering together of great waters.' In the end, in spite of herself, Stephen cries aloud with their voice, 'Acknowledge us, oh God, before the whole world. Give us also the right to our existence!'"³³ Love reflects: "Though Stephen to the last has continued to disavow her kind, this final moment of agony reconnects her to their suffering, allowing her to speak on their behalf, to represent them to God and the world."³⁴ But Stephen's final avowal does not necessarily plug a silence, or end in anything more than ambiguity. As she notes, "Hall's embrace of the discourse of congenital inversion is still at odds with the antiessentialism of contemporary theories of sexuality," and so *The Well of Loneliness* itself becomes a voice that often gets cast off, one that presages the vexed present-day relationship between transgender people and feminists—as well as the (differently; similarly) vexed relationship between Cher and

³² Ibid., 125.

³³ Ibid., 437.

³⁴ Ibid., 126.

Chaz.³⁵

In spite of all these voices, voices do not get theorized specifically in Love's text, though such an approach is hinted at. One scholarly debate Love parses "argues eloquently for the need for an expanded gestural repertoire"; elsewhere, she cites Raymond Williams: "In paying attention to things like tone, dress, and habit, one may discover "social experiences in solution."³⁶ In the way that the voice resists our ownership, here as elsewhere, it may be similar to the term 'queer' itself, the utterance of which Judith Butler writes is "never fully owned, but always and only redeployed, twisted, queered from a prior usage and in the direction of urgent and expanding political purposes."³⁷ The way voices resist us—or better yet, twist our words—is a central theme in what follows, and their twisting, resisting elements steer me toward reading them queerly.

My aim in this thesis is to better parse these dynamics by examining moments when we have indeed sought to own the voice, or technologies through which we have sought to do so: the answering machine, Auto-Tune, and the sound spectrogram in particular. For Heather Love, literature is a prime technology of feeling backwards (or, in Sedgwick's term, novel-gazing). Literary criticism inherits particular stances toward vocality from their progenitors: Mara Mills, for example, traces some of the ways in which Ferdinand de Saussure's theory of semiology, foundational to structuralism, was

³⁵ Ibid., 101.

³⁶ Ibid., 162; Raymond Williams, *Marxism and Literature* (Oxford: Oxford University Press, 1977), 133) cited in *Feeling Backward*, 12.

³⁷ Judith Butler, *Bodies that Matter: On the Discursive Limits of "Sex"* (Hove, UK: Psychology Press, 1993), 228.

both reliant on sonic technology (Saussure's "speaking-circuit" was seemingly modeled upon a telephone call) and itself became a technology that excluded the sonic:

The linguistic sign unites, not a thing and a name, but a concept and a sound-image [signified and signifier]. The latter is not the material sound, a purely physical thing, but the psychological imprint of the sound, the impression it makes on our senses.³⁸

Elsewhere, Mills writes of Lacan's fascination, in his second seminar, with the project of "visible speech" envisioned by Étienne-Jules Marey, and enacted by Bell Laboratories in the form of the sound spectrograph, a project that forms the basis for my investigation of Auto-Tune and sound spectrography in Chapter Two.³⁹

Like the shifting stances of theories-as-technologies themselves, the vocal technologies I examine here have their own temporalities and their own affordances. The answering machine is a proxy for a speaker, a proxy which both promises to return a call and to listen in lieu of someone else. That promise becomes fraught when spoken by a voice that is now obsolete—like Chastity Bono's, since replaced by Chaz's hormonally deepened tones, much to Cher's chagrin. The sound spectrogram, which many use to monitor the pitch of their voices via waveforms displayed on a screen, is one in a long line of instruments that aim to make speech visible and to make pitch correctible, including Auto-Tune, which Cher pioneered. Today, transgender women, whose voices do not change via hormones in the ways that Chaz's does, use the spectrogram to ward off their own stigmatization. Both instruments promise certain futures (a call back, a

³⁸ Ferdinand de Saussure, *Course in General Linguistics*, ed. Charles Bally and Albert Sechehaye, trans. Wade Baskin (New York: McGraw Hill, 1966), cited in Mara Mills, "On Disability and Cybernetics," *differences*, 22 no. 2-3 (2011), 74-111.

³⁹ "Deaf Jam: Inscription, Reproduction, Information," *Social Text* 28 no. 1 (2010), 34-35.

more perfect sonic selfhood) and in so doing they nudge experiences of loss and selfhood in particular ways.

In writing about the causes and consequences of these nudges, I write contra Proust. Walter Benjamin's account of *memoire involontaire* states, "According to Proust, it is a matter of chance whether an individual forms an image of himself." For Proust, the past lives

somewhere beyond the intellect, and [is] unmistakably present in some material object (or the sensation which such an object arouses in us), though we have no idea which one it is. As for that object, it depends entirely on chance whether we come upon it before we die or whether we never encounter it.⁴⁰

That the past is "unmistakably present in some material object" resonates deeply with Cher's reflections on a lost voice in an answering machine. That such a confrontation "depends entirely on chance" rings less true, insofar as the answering machine is built to archive and orchestrate such conversations with the other. Rather than being technologically determinist, this thesis explores tensions between the design and usage of sonic technologies, particularly their capacity to divulge unexpected information.

I want to close by turning to some recent insights about this capacity for the unexpected from the field of visual studies, via Kaja Silverman's *The Miracle of Analogy, or The History of Photography, Part 1*. For Kaja Silverman, photography's power is not simply to document that which we already think we know of the world so as to ward off death but to allow life to reveal itself to us through analogies, which she describes as such:

⁴⁰ Walter Benjamin, *Illuminations* (Boston: Houghton Mifflin Harcourt, 1968), 158. Cited in *Feeling Backwards*, 90. Benjamin cites from the famous passages in *Swann's Way* (New York: Henry Holt and Company, 1922: 57-8) concerning the narrator's encounter with a madeleine; the translation is his own.

Each of us is connected through similarities that are neither of our making or our choosing to countless other beings. We cannot extricate ourselves from these relationships, because there is no such thing as an individual; the smallest unit of Being is two interlocking terms. There is also nowhere else to go. Analogy runs through everything-that-is like a shuttle through a loom, weaving its threads into the All, or what I call the “world.”⁴¹

In this thesis, I want to give Silverman’s lambent analysis a sonic valence. What have we learned, and what might we learn still, from analogies with a sonic basis, from connections that the sonic may foreground? This document’s own connections begin with Cher and Chaz, and shuttle past them to rarer pairings: between Ringo and Cher, and between Cher and Rosie, and between Cher and T-Pain, and between Cher and Edison, and between Edison and Cros, and between Cher and Descartes, and between Cher and the transgender women who use the spectrogram to sound feminine.

To trace analogies, connections, and echoes will not seem a novel approach. Is that not the basic task of any scholarship, especially the interdisciplinary varieties that seek to sketch in the spaces between traditionally constituted fields? But the arrival of this concept at a moment when writing ethnography was beginning to feel to me like a game of tetris played with block quotes made it feel especially provocative. When I conducted an ethnography of transgender voice modification in 2011 and 2012, I already had doubts about ethnography’s own treatment of voices: about the way block quotes might lead us to presume that voices were similar from moment to moment; about whether we lie through omission in giving the impression that a typical voice is unchanging. Amid all my critiques of notions of giving voice, however, I hadn’t yet come to question ethnography’s own voice-maximizing calculus, which elevates casting a wide

⁴¹ (Palo Alto: Stanford University Press, 2015), 11.

net above close reading. My ethnographic work informs my interest in and commitment to this project in many deep ways, but I wanted to stretch myself methodologically. In that regard, I found support from Cher, who has roundly critiqued the interview form. In a 1985 interview, she said, “The thing is you can ask me any question and I’ll answer it. But none of it really matters to me...you’ll never know me and the answer I give won’t give you any real insight into me.”⁴² Similarly, in 1991, she said:

I could answer your questions all day long. You guys are never going to know me or anything about me. So it’s kind of a game. It’s kind of a big pain in the ass. Personally, I would just as soon watch or listen to what people do. I know you can’t get to know people by interviews. It’s my job to keep you as far away from who I am as possible.⁴³

The history of the voice is oftentimes a history of resisting analogies between voices, dynamics I explore in greater detail in Chapter Two, and the history of a discipline is marked by similar exclusions.⁴⁴ In assembling a different cast of characters in this thesis—and for the first time not interviewing a single one of them—I challenge the ethnographic approach to casting, which operates via its own voice-maximizing calculus, one which privileges voices from the present over voices from the past, voices conducted via fieldwork over the voices of performance, and so forth. I close my second chapter with an ethnographic vignette as a way of impressing upon myself all the historical threads that converge in that moment of vocal pitch correction--and which are necessarily

⁴² Nigel Goodall, *Cher in Her Own Words* (London: Omnibus Books, 1992.)

⁴³ *Ibid.*

⁴⁴ Nicholas Harkness’ work on “the clean voice” in Korean Christian music is an important recent example in this vein, as it demonstrates some ways vocality is subject to its own hygienic regimes and *cordons sanitaires*. See *Songs of Seoul: An Ethnography of Voice and Voicing in Christian South Korea* (Berkeley: University of California Press, 2013.)

excluded from ethnographic writing.

At the same time, analogies may, as Christopher Nealon has described them, be “hopeful,” may point to possibilities for becoming.⁴⁵ My own use of them is in this vein: in the hope that my own work may find ways to marry the attention to voice, conversation, and interlocution that ethnography has taught me with the new kinds of voices that media and its theories have equally brought me. In closing my second chapter with one ethnographic account of using a spectrograph for voice modification, and revisiting it in my conclusion, I ask myself questions about the kinds of narratives that get left out of ethnographies, and to ask what that story gains via media theory and queer theory, which have more recently come into my academic life. To find aspects of my ethnographic interlocutors’ concerns transmuted into the lives of Cher and Chaz, or in the writings of Alexander Graham Bell and Descartes, gave me a new sense of wonder at the way “Analogy runs through everything-that-is like a shuttle through a loom,” in Silverman’s wording.

Such thinking on my part invites an analogy about analogy: Leo Bersani and Adam Phillips write in *Intimacies* of “impersonal narcissism,” described elsewhere as “the pleasure of finding multiple parts of ourselves inaccurately replicated everywhere in the world.”⁴⁶ Inaccuracy is precisely the point. With the voice especially, and with all identity unavoidably, we are never fully its keeper. We are always losing the voice as

⁴⁵ *Foundlings*, 10.

Here Nealon echoes a famous line from George Eliot’s *Middlemarch* (London: William Blackwood & Sons, 1871): “The world is filled with hopeful analogies and handsome, dubious eggs, called possibilities.”

⁴⁶ (Chicago: University of Chicago Press, 2008), in “Shame On You,” *After Sex?*, 108.

soon as we open our mouths; sometimes the voice is where we most evidently lose it. “I see the art of losing as a particularly queer art,” writes Love, echoing Elizabeth Bishop’s most memorable line, and herself echoed in Halberstam’s attention to “the queer art of failure.”⁴⁷ We might say that the art of voicing is the art of losing. Neither Cher nor Chaz is a perfect loser, so to speak. I offer their spoken losses here. To offer a voice, in academic prose, is always implicitly to offer a gain; if I can’t or won’t dismantle that tradition here, in offering *these* voices I also want to offer a chance to get a bit lost. Let’s see how they sound.

⁴⁷ *Feeling Backward*, 25.

**Chapter One / The Ghost in the (Answering) Machine:
Cher, Chaz, and the (Promise-)Breaking Voice**

O for the touch of a vanish'd hand,
And the sound of a voice that is still!

—Alfred, Lord Tennyson, *Break, break, break* (1842)

Then followed that queerest of all the queer things in this world—
a conversation with only one end to it. You hear questions
asked; you don't hear the answer. You hear invitations given;
you hear no thanks in return. You have listening pauses of
dead silence, followed by irrelevant or unjustifiable
exclamations of glad surprise or sorrow or dismay—

—Mark Twain, *The Telephonic Conversation* (1880)

Nested in the documentary *Becoming Chaz* (2011) is this testimony:

I was hysterical one day, because I was calling her answering machine, and I realized it was her old voice, and I asked, 'Is there any way I can save it?'—because I will never hear that voice again. And there wasn't—it was gone. For me, that's the most dramatic thing that has happened in this whole thing—hearing her voice and knowing I'll never hear it again.

Here Cher—performer, public figure, and mother of a transgender son—recounts her grief at hearing her child, Chaz (born Chastity), transition from female to male. Hear how the disappearance of Chaz's once-feminine voice in the wake of his hormone therapy serves as Cher's synecdoche: a particularly clear change that comes to stand for all of the changes, gradual and sudden, visual and sonic, surgical and hormonal, that have marked Chaz's transition. For Cher, the new voice on the phone is phony (or else too real); for

Chaz's emergence is heard, and heralded, as further confirmation of the wrongness of his female gender assignment at birth. Booking an airline ticket to San Francisco for top surgery, after he's begun hormones but before he's gotten a legal name change, Chaz types his birth name into the site, and his partner Jenny remarks, "You sound so wrong with that voice as Chastity." The camera pans to Chaz's outdated license (Figure 2).



(Figure 2: Still from *Becoming Chaz*, 2011.)

Cher's lament—that some true part of Chaz is trapped in the answering machine, namely, that part which is irreconcilably Chastity—sits uneasily within a film committed in its very title, *Becoming Chaz*, to affirming Chaz's becoming. Yet both Cher and Chaz privilege the voice as a site for locating identity, even as encountering that voice depends on a supporting apparatus: bodies that take testosterone, that speak on the telephone, that listen to the answering machine. Their conversation here invites us to convene a party line from which to speak further about this relationship between voices, bodies, and technologies, especially as it pertains to subjects like Chaz, whose traversal of the gender

binary produces new capacities of voice and of body, new rhetorics of selfhood and of mourning, and new social configurations, all of which partake in older forms.

By considering the answering machine (and, to some small extent, the projects of phonography and telephony on which it is based) alongside broader conversations within queer theory about surgical and hormonal technology, I offer a sonic inflection of queer dilemmas of relationality and change, beginning with Cher and Chaz's.⁴⁸ Bearing with

⁴⁸ The telephone has long been used by queer writers as a metaphor for dilemmas of the desiring subject. For Henry James, it was a perfect—and yet slightly perverse—analogy for the pull of the love-object. Writing to Dudley Jocelyn Persse, he compared himself, a bit hesitantly, to the telephone (the “call” both fetish and placed at arm’s length via quotation marks):

Dear dear Jocelyn. Irresistible to me always any tug on your part at the fine & firm silver cord that stretches between us—as I think I never fail to show you: at any twitch of it by your hand, the machine, within me, enters into vibration & I respond ever so eagerly & amply! (My image sounds rather like the rattle of the telephone under the effect of a “call”; but I mean it well, & I mean it, above all, my dear Jocelyn, affectionately!) (Susan E. Gunter “‘You Will Fit the Tighter into My Embrace!’: Henry James’s Letters to Jocelyn Persse,” *GLQ: A Journal of Lesbian and Gay Studies* 7 no. 2 (2001): 335–354, quotation on 346)

Elsewhere, he describes how technology produces “queer extensions” of the self; see “In the Cage” in *London Stories and Other Writings* (Padstow, U.K.: Tabb House, 1989), 284, cited in Kate Thomas, “Post Sex,” in *After Sex?*

In his sonnet for E.M. Forster, W.H. Auden described Forster’s writing as “interrupting the present madness like the telephone.” (J. S. Herz, “Miss Avery in the Garden with the Sword: Forster and Friendship,” *GLQ: A Journal of Lesbian and Gay Studies* 14 no. 4 (2008): 603–608; quotation on 607.)

Similarly, the mere presence of the answering machine enables us to slice a particular cross-section of queer lives from archives, marking modes of collective life organized around communication technologies (“AIDS was first reported as a mysterious ‘gay cancer’ in 1981. That year, six friends founded GMHC, the Gay Men’s Health Crisis, with nothing but an answering machine—and got more than a hundred calls the first night,” writes B. Ruby Rich in *New Queer Cinema: The Director’s Cut* (Durham: Duke University Press, 2013), xvi) to the violence that punctures it (“The well-known Brazilian theater director Luiz Antonio Martinez Correa (1950–87) brought a 26-year-old man with curly blonde hair and a variety of tattoos on his muscular body from a beach to his small

the awkwardness of getting at voices through writing, Cher and Chaz offer ample listening material, concerned as they both are with “sounding like themselves,” with making themselves through their voices. Simultaneously, voices unmake selves. Throughout this essay, I foreground terminology of the voice breaking, and a nearby archipelago of vocabulary: the voice breaking in puberty, the voice breaking in grief, a break in the telephone wire, a voice that is breaking-up or breaking-off or breaking-out or breaking-through or breaking-in or breaking promises or prompting a breakdown.

I do so not to reify Cher’s perception of disruption in and caused by the transgender voice, but to amplify the ways in which voices are always disrupted and disruptive, and to conjure wider soundscapes of vocal change in which the voice might break, against which Chaz gets singled out for breaking the answering machine’s promise—“Please leave a message and I will call you back”—with his own vocal discontinuity.⁴⁹ The answering machine is a place Cher goes to listen to her child; we may also go there to listen to the conditions of possibility for her listening, and to consider in turn how media theory may illuminate the conditions of delayed temporality (the answering machine speaks beyond the moment of capture), of assigning a proxy (the answering machine speaks *for* us in particular ways), and of scarcity (the answering

apartment in Ipanema in December 1987...his guest, perhaps with the help of an accomplice, murdered him for his video-cassette, a telephone answering machine and some cash” writes David Higgs in *Queer Sites: Gay Urban Histories since 1600* (London: Routledge, 1999), 160.)

⁴⁹ In including the potential pleasure of the breaking voice alongside its potential pain, I echo an insight of Carolyn Dinshaw’s, who observed that “pleasure may be afforded by a break with the past.” See *Getting Medieval: Sexualities and Communities, Pre- and Postmodern*, Durham: Duke University Press, 1999: 36

machine is designed with certain limits, and without the guarantee of response) that shape it. Let's see how their selves sound.

The Epistemology of the Answering Machine⁵⁰

To begin with the answering machine is to begin in a space that feels familiar, for the confined environment of the answering machine on which Cher stakes her claim is reminiscent of a different confined environment on which many others have staked theirs: the closet. In our opening passage, Cher describes the answering machine as a technology of enclosure, entrapment, and entombment. In so doing, she draws on the same rhetorics that lend potency to the metaphor of the closet, which Paul Monette evocatively subtitled “the coffin world.”⁵¹ These rhetorics are as much about temporal lag as they are about spatial confinement: the closeted person is somehow behind, or shut off from, what he or she ought to be, and so must break out.⁵² Resonance, here, with what Jacques Derrida has

⁵⁰ I'm hardly the first to propose a queer theorization of a space along the lines of and in the lineage of Sedgwick's *Epistemology of the Closet*. Heather Love writes that Walter Pater “seems to propose... an epistemology of the vestibule, as he imagines a community of subjects defined through indecision and delay” (*Feeling Backward*, 64); elsewhere, she cites Halberstam's notion of the “epistemology of the wardrobe” (*Ibid.*, 118). Where my analysis differs is in its consideration of the answering machine as a space with its own network architecture.

⁵¹ Paul Monette, *Becoming a Man: Half a Life Story* (New York: Harcourt Brace Jovanovich, 1992.)

⁵² To briefly flag related debates, there is a longstanding connection between alterity and delayed temporality in Western thought. Postcolonial theorist Dipesh Chakrabarty has written extensively about the way in which non-Western subjects are often seen as behind the times or outside of time (see, for example, “The Time of History and the Times of the Gods,” in *The Politics of Culture in the Shadow of Capital*, ed. Lisa Lowe and David Lloyd (Durham, N.C.: Duke University Press, 1997), 36) and Love's *Feeling Backward* shows these arguments to have been frequently applied to queer subjects as well: “Whether understood as throwbacks to an earlier stage of human development or as

noted of all archives: that they are places of “house arrest.”⁵³ If the closet, housing a person, gets used to make arguments about breaking out and about resisting arrest, Cher means for the answering machine, which houses a voice, to make an arrest: to avow the primacy of the voice contained therein, to make a resting place for an identity (Chastity’s) she feels Chaz has cast off. Moreover, although media made by and for Chaz relies on similar language of enclosure versus freedom (*Becoming Chaz*, for example, advertises its protagonist as “a male trapped in a female shell... Growing up as Sonny and Cher’s adorable golden-haired daughter in a body he felt wasn’t his own was a crucible that took years to transcend”) Chaz’s own shifting vocality, and his erasure of the voice on the answering machine, ultimately serve to push back against the paralysis of the paratext that is used to describe him.⁵⁴

What facile equations of space (or voice) with freedom and enclosure (or silence) with loss miss is this: the closet and the answering machine (and all other spaces besides) are governed by complex logics of sound and silence, of shutting off and shutting up. At first hearing, a scene concerning the disappearance or the deletion of a voice on the answering machine would seem easily reabsorbed into that tired binary between sound

children who refuse to grow up, queers have been seen across the twentieth century as a backward race,” (6) containing, in Djuna Barnes’ phrase, the quality of the “way back” (*Nightwood* (New York: New Directions, 1937), 40).

⁵³ Jacques Derrida, *Archive Fever: A Freudian Impression* (Chicago: University of Chicago Press, 1998), 2; cited in Sara Ahmed, *Willful Subjects* (Durham: Duke University Press, 2014), 13.

⁵⁴ The ambiguity of this phrasing--whether the universality of “growing up” or the specific “body” one is born into comprises the crucible that one must transcend--is one that will dog us throughout this analysis. (The phrasing is itself ambiguously authored, used by *Becoming Chaz*’s distributor on some sites, like Amazon, but not on others.)

and silence. However, for this attempt to attend to more nuanced sonic gradations, the answering machine makes a useful site: in practice the answering machine may be an effective way to evade the call of the other even as it voices, as proxy and before the beep, an eternal willingness to return the call. Even placing on hold such questions about the other's call, which I later frame in terms of a specific genre of utterance—as a matter of *promises*—the answering machine similarly seeds uncanniness where the call of the self is concerned. Where Cher seeks to use the answering machine's outdated form to bolster an argument about other no-longer-here forms (namely, Chastity's voice), there was always something no-longer-here about the answering machine, even when it was ubiquitous. That is to say: at the point at which a message is recorded (either one that greets the caller, as in Chaz's case, or one that will later respond *to* that greeting) it is already out of date.

The asynchronicity of recorded greetings links them to the productive foment around asynchronicity in media writ large and the tendency of such asynchronicity to produce uncanny feelings. Of the photograph, Roland Barthes writes that it is “in no way a *presence*... its reality is that of the having-been-there.”⁵⁵ Looking at an 1865 photo of a man about to be executed, he writes: “I shudder over a catastrophe which has already occurred.”⁵⁶ The same shudder characterizes Cher's response to what she perceives as catastrophe, the disappearance of Chastity's voice; in both cases, asynchronous media seems to speak from beyond the grave. In Cher's case, the acknowledgment that the voice

⁵⁵ Roland Barthes, “The Rhetoric of the Image,” in *Image – Music – Text* (New York: Hill & Wang, 1977), 44.

⁵⁶ Roland Barthes, *Camera Lucida: Reflections on Photography* (New York: Farrar, Strauss and Giroux, 1981), 96.

is no longer here is the acknowledgment of a break in that voice, and if we often describe the voice breaking in situations of grief, here the causality is reversed, with the voice that breaks with its own past cited as cause for grief. And the grounds for that grief are not simply a break with any past, but with a particular vocal lineage: in a 1992 interview, Cher notes, “My mother and my sister and I have basically the same voice.”⁵⁷ This lineage was a bulwark for Cher in an era in which her own voice, as we will see in the following chapter, was roundly dissected; by dint of her gender assignment at birth, Chastity was conscripted into that same lineage.



Cher with her daughter, mother and sister.

(Figure 3, a photo from the early 1970s; Cher holds Chastity Bono, at far left; from Goodall 1993.)

Andre Bazin’s “The Ontology of the Photographic Image” is the first attempt to think the delayed temporality of media systematically, as active grave-digging capacity. Bazin describes the impulse to use media to guard against human finitude as the “mummy complex,” and wends a throughline from cinema back through painting,

⁵⁷ Goodall, *Cher: In Her Own Words*, 8

sculpture, and embalming.⁵⁸

If the plastic arts were put under psychoanalysis, the practice of embalming the dead might turn out to be a fundamental factor in their creation [...] by providing a defence against the passage of time [embalming] satisfied a basic psychological need in man, for death is but the victory of time. To preserve, artificially, his bodily appearance is to snatch it from the flow of time, to stow it away neatly, so to speak, in the hold of life. It was natural, therefore, to keep up appearances in the face of the reality of death by preserving flesh and bone.

For Bazin, art provides a way to “have the last word in the argument with death by means of the form that endures.”⁵⁹ Yet the forms to which he grants this power are exclusively visual ones, and the elements of the human form they are meant to “stow...away neatly...in the hold of life” are visual as well: “flesh and bone.” This is in spite of the fact that the metaphor Bazin uses for such forms’ power—having the last word in the argument with death—is sonic and linguistic, and thus flags Bazin’s exclusion as he fortifies it. Elsewhere in his work Bazin cautions against fixating overmuch on the visual, calling “the primacy of the image...historically and technically accidental.”⁶⁰ Yet although Bazin concludes that “it would be absurd to take the silent film as a state of primal perfection which has gradually been forsaken by the realism of sound and color” his own thought primarily forsakes sound.⁶¹ Still, in its emphasis on media as a tool for

⁵⁸ Andre Bazin, “The Ontology of the Photographic Image,” *What Is Cinema? Vol. 1*, (Berkeley and London: University of California Press, 1967), 9.

⁵⁹ *Ibid.*, 10.

⁶⁰ *Ibid.*, 21.

⁶¹ *Ibid.*

stilled bodies, it offers a foundation for probing other sonic histories, leading up to and including Cher and Chaz's.



(Figure 4, “His Master’s Voice,” originally painted by Francis Barraud in 1898.)

To Mummify “Beloved Voices”

If we can hear the mummy complex in Cher’s maternal dilemma—in her desire to “snatch [something of Chastity] from the flow of time”—we might also ask questions about how including the sonic changes our understanding of the mummy complex itself. Examples of what we might call sonic mummification abound, from Francis Barraud’s painting of a dog listening to His Master’s [deceased] Voice on the gramophone, then approaching the apparatus and sniffing (which scene gets taken up as a logo by the Gramophone Company and others, in Figure 4), to the story, tongue-in-cheek and

translated by Friedrich Kittler from his native German in *Discourse Networks*, of an attempt to capture the voice of Goethe decades after his death on the assumption that particles of sound (which is to say: broken-up vocals) continue to reverberate around any given room long after the source has been silenced.⁶² Kittler shows the history of recorded sound not only to contain smaller histories of mourning and mummification, and not only to proliferate different kinds of containers for them (like the answering machine), but to actually have been a project founded on mourning from the outset. The first inventor of the phonograph, Charles Cros (who filed a patent eight months before Edison, but for lack of funds did not actually construct it) described his project thusly:

*Comme les traits dans les camées
J'ai voulu que les voix aimées
Soient un bien, qu'on garde à jamais,
Et puissent répéter le rêve
Musical de l'heure trop brève;
Le temps veut fuir, je le soumets.*

Like the faces in cameos
I wanted beloved voices
To be a fortune which one keeps forever,
And which can repeat the musical
Dream of the too short hour;
Time would flee, I subdue it.⁶³

For Cros, stilling “beloved voices” and making them repeatable beyond the “too short hour” was the impetus for creating an apparatus to record sound in the first place.

⁶² Friedrich Kittler, *Discourse Networks* (Stanford: Stanford University Press, 1992), 230–31.

⁶³ Friedrich Kittler, *Gramophone, Film, Typewriter* (Stanford: Stanford University Press, 1999), 22.

But the asynchronous, uncanny quality of recorded sound often ends up fomenting ambivalence toward such sonic preservational projects: the precondition for listening is the sound's lagging behind, and thus often its audible break with, the source. This seeds the suggestion that sonic technologies may create the condition of possibility for loss: if Cros, who scooped Edison on the phonograph but lost out on the credit when he failed to follow through, framed his project as evading loss, Edison's own invention of the phonograph was follow-up on his initial failure to invent something much like the answering machine, which was later justified as protection from loss.⁶⁴ The order of things—or where the breakthrough lies—is not always so clear.

Later theorists helpfully restitch such sonic innovations in the language of Lacanian psychoanalysis, switching out the thread of lag as a condition of sonic mediation for lack as a condition of being. On the one hand, the voice seems to gesture back at some prelinguistic state of plenitude (since it always seems to be a remnant, it is a powerful tool for Cher's claims about the left-behind bits of Chaz's original self); as Mladen Dolar summarizes in *A Voice and Nothing More*, "The voice is endowed with profundity: by not meaning anything, it appears to mean more than mere words, it becomes the bearer of some unfathomable originary meaning which, supposedly, got lost with language."⁶⁵ The mother's voice figures that profundity and plenitude: Kaja Silverman writes that the fantasy of the maternal voice is of a "sonorous envelope" or

⁶⁴ For a brief overview of Edison's early attempt to invent something like the answering machine, which includes Edison's original sketches, see William Pretzer, *Working at Inventing: Thomas A. Edison and the Menlo Park Experience* (Baltimore: Johns Hopkins University Press, 2002), 108-9.

⁶⁵ Mladen Dolar, *A Voice and Nothing More* (Cambridge: MIT Press, 2006), 31.

“bath of sound” that serves as the “prototype for all subsequent auditory pleasure.”⁶⁶ One does not need to abide by the strict kin configuration of the original formulation to find the observation useful, and to hear how Cher condenses a similar fantasy of nourishment in the voice on the answering machine.⁶⁷

On the other hand: by doubling the voice, the recording doubly gives the lie to visions of the self’s voice as preeminent indicator of its consistency and wholeness (“the voice is the organ of the soul,” Longfellow wrote, indexing this position.)⁶⁸ Recorded sound ushers in an era of cinematic wrangling with unmoored, disembodied voices—the

⁶⁶ Kaja Silverman, *The Acoustic Mirror: The Female Voice in Psychoanalysis and Cinema*, Bloomington: Indiana University Press, 1988: 73, 84.

⁶⁷ We might similarly play with other classic psychoanalytic formulations in limning Cher’s predicament, if we are willing to shift those kin configurations and sonically inflect them—and we might start, in understanding the disappearance of a child’s voice, the classic game of disappearance and return played by children: Fort/Da. Freud describes: The child takes “a wooden reel with a piece of string tied round it” and “very skillfully throw[s] it over the edge of his curtained cot” again and again, all the while uttering ‘fort’ (gone) and ‘da’ (there). Fort/Da supplies a way for the child to dramatize, and assuage, the increasing absence of the mother. For Da (this being the nickname Cher has long called Chaz by, and relies on increasingly in the face of her pronoun confusions) Cher creates her own sonic method of coping with the ways her child has chosen to absent himself. But this sonic successor to Fort/Da is a melancholic method of mourning, especially because Chaz himself has purchase on how long she can continue to use it: eventually, the message itself will be deleted. To adapt another classic psychoanalytic formulation, if Freud figured the child’s fear of castration as “the horror of nothing to see,” here Cher dreads the horror of nothing to hear. She is unable to imagine her child’s post-transition voice, and wants to return Chaz to a safe, ordinary state in the same way she wishes to do so herself. For Lacanians like Dolar and Kittler, the voice always taunts us with this possibility of stillness in the face of change—again, “it becomes the bearer of some unfathomable ordinary meaning which, supposedly, got lost with language”—not only in cases of gender migration, and not only when the answering machine is involved. But the recency of the migration here, and the repetition enabled by the answering machine, intensify Cher’s yearning for the voice to tell the truth she wants to hear about the person.

⁶⁸ Henry Wadsworth Longfellow, *Hyperion: A Romance* (New York: John B. Alden, 1885), 152.

acousmètres about which Michel Chion famously has written. According to Chion, when we are confronted by a voice whose source we cannot see, we experience anxiety until we couple it with a fitting body.⁶⁹ Chion's analysis lays the groundwork for understanding the everyday sonic predicaments trans people like Chaz face, where voices and bodies are coupled in ways that may not be commonly recognizable *as selves*.⁷⁰ Transgender women may feminize their bodies through hormones, but the voice, if it has already broken in puberty, remains deep and liable to be heard as masculine without speech therapy or experimental surgery. For trans men, the voice masculinizes through hormones, but it may do so more slowly or more quickly than other traits, and it may lead to the transitioning subject being perceived as gay, as the linguist Lal Zimman's work explores.⁷¹ As we track Cher and Chaz's trajectories and the traction the voice has on

⁶⁹ Michel Chion, *The Voice in Cinema* (New York: Columbia University Press, 1999), *passim*.

⁷⁰ Of course, there are many scenarios of vocal incongruity, all of which are inflected by broader cultural suppositions about the voice, most of which I bracket here. It bears note that in scenarios where one's voice does not sound like one's gender, cisgender people are offered relief by extant systems. In a conversation with one speech therapist, I asked her whether insurance companies would assist a cisgender man who deemed his voice too high in deepening it. She answered as follows:

Oh, of course. There's a condition called mutational falsetto, in which a man's voice doesn't change after puberty. Insurance absolutely pays for that. It's a fairly common condition—but not as common as being transgender. (Interview, 2/16/12)

For more on predicaments of vocality, see Carl Elliott, *Better than Well: American Medicine Meets the American Dream* (New York: W. W. Norton & Co., 1996) on accent reduction classes taken by immigrants and Marc Shell, *Stutter* (Cambridge: Harvard University Press, 2006.)

⁷¹ See Lal Zimman, "Hegemonic masculinity and the variability of gay-sounding speech: The perceived sexuality of transgender men." *Journal of Language & Sexuality* 2 no. 1 (2013): 1-39.

them, it is helpful to keep in mind these twin tendencies: to use voices as solutions to the problem of the self and as evidence of that self's disjuncture or dissolution.⁷²

The more fissures within selfhood new technologies like the gramophone laid bare, the more their users ruminated on the line between self and nonself, thus inaugurating the dialogue between ghostly mediums and media more broadly construed.⁷³

This dialogue was just as dense in the space of sonic technology, of instruments like the gramophone that preceded the telephone and answering machine, as it was in the space of

The telephone may offer relief from disapprobation resulting from vocal disjuncture, but it can also lead to forms of mistaken address, the consequences of which can be broad; for example, some US-population-level surveys rely on telephone interviewers to assess perceived sex or gender based on the vocal tone of respondents. Neither sex nor gender are self-reported on the Behavioral Risk Factor Surveillance System (BRFSS); rather, these constructs are noted by the telephone interviewer (as sex based on interviewer-perceived tone of respondent voice) and confirmed with the respondent if needed. See KJ Conron et al., Transgender health in Massachusetts: results from a household probability sample of adults, *American Journal of Public Health* 102 (2012): 118-122; Sari L. Reisner et al., "'Counting' Transgender and Gender-Nonconforming Adults in Health Research: Recommendations from the Gender Identity in US Surveillance Group," *Transgender Studies Quarterly* 2 no. 1 (2015): 34-57.

⁷² Roland Barthes makes a similar distinction when he writes, in "The Grain of the Voice," of the *pheno-song* and the *geno-song* (*Image - Music - Text*, 179-189). For Barthes, there are performances—in this case, operatic performances—in which the "materiality of the body speaking its mother tongue" becomes clear, which go beyond the typical communicative function of song, or what Barthes called the *pheno-song* (270). The counterpart to the *pheno-song* is the *geno-song*, which is "the *diction* of language," the "culmination (or depth) of production where melody actually *works on* language—not what is said but the voluptuous pleasure of its signifier sounds, of its letters" (270-1). There are some performances that "never transcend culture," remaining within the bounds of "the tissue of cultural values (the substance of acknowledged tastes, of fashions, or critical discourse), what is directly articulated around the ideological alibis of a period;" these are entirely *pheno-song* (270). In other performances, something beyond the language "seduces" us, "persuades us to enjoyment" (271). These track to the *studium* and *punctum* Barthes uses to analyse photographs, given that the former indicates what is supposed to be seen (or heard), and the other what disrupts that viewing (or hearing).

⁷³ This dialogue has been carefully transcribed elsewhere; for my own offering, see Lilia Kilburn, "Ghost-Righting: The Haunted Spouses and Spectral Ethics of Richard Linklater's *Before* Trilogy," forthcoming in *Criticism*.

visuality, of spirit photographs and Balzac's view of the body as comprised of mica-like sheets of specters, shedding a shiny skin with each photograph taken. As Friedrich Kittler recounts in *Gramophone, Film, Typewriter*, "one of the ten applications Edison envisioned for his newly invented phonograph in the *North American Review* (1878) was to record 'the last words of dying persons,'" and in 1902, Alfred Parzer-Mühlbacher wrote in the first German manual on the Care and Usage of Modern Speaking Machines (Phonograph, Graphophone and Gramophone) that through said machines "Cherished loved ones, dear friends, and famous individuals who have long since passed away will years later talk to us again with the same vividness and warmth."⁷⁴ From there, Kittler says, "It was only a small step from such a 'family record,' with its special consideration of revenants, to fantasies that had telephone cables linking the living and the dead."⁷⁵ In

⁷⁴ Friedrich Kittler, *Gramophone, Film, Typewriter* (Stanford: Stanford University Press, 1999), 12, 55.

⁷⁵ Kittler, *Gramophone, Film, Typewriter*, 12. Indeed, Alexander Graham Bell and his brothers purportedly made a pact that, should one of them die before the others, they would find a way to communicate postmortem. Both of Bell's brothers died young, he invented the telephone (with the aid of Thomas Watson, who was also a medium), and waited on their call. The call never arrived, and Bell became an outspoken opponent of the afterlife. (See Avital Ronell, *The Telephone Book: Technology, Schizophrenia, and Electric Speech* (Lincoln: University of Nebraska Press), 1989.)

The apotheosis of the notion of a family record was reached, perhaps, with NASA's shooting into space of the Voyager Golden Record alongside the Voyager Probe; see Dominic Pettman's "After the Beep: Answering Machines and Creaturely Life," *boundary 2*, 37 no. 2 (2010), 134-153, esp. 149-152, to which I am indebted for a number of excellent observations about answering machines cited in this article.

In introducing the project, Carl Sagan stated that "the launching of this bottle into the cosmic ocean says something very hopeful about life on this planet;" this, of course, excluded queer subjects, as Ann Druyan recalled in *Murmurs of Earth: The Voyager Interstellar Record* (Carl Sagan et al. (New York: Random House, 1978), in a section titled "The Kiss:"

1896, the very first page of the very first issue of a trade publication, *Phonoscope*, saw the aforementioned as a foregone conclusion: “Death has lost some of its sting since we are able to forever retain the voices of the dead.”⁷⁶

This returns us to Chaz and Cher, and to Cher’s fantasy of remaining linked to Chastity, or at least to the revenant of her “beloved voice,” via the answering machine, but first: consider the difficulty of the original sonic mummificatory premise of recording last words. It would seem to sidestep any question of timing: how would one know in practice which words were going to be a speaker’s last?⁷⁷ In order to be well positioned to capture last words, one would also need to entertain the possibility that the second-to-last words could be the last words, and so on and so forth through infinite monitorial regress, which we might call time-lapse sonic selfhood.⁷⁸ Fictional examples of such

This wonderful sound proved to be the most difficult to record. We were under strict orders from NASA to keep it heterosexual, and within such a constraint we tried every permutation we could think of without success. Jimmy Iovine happened to show up that day, and he was most anxious to produce a believable kiss by sucking his arm. But this was to be that impossible thing, a kiss that would last forever, and we wanted it to be real. After many unusable kisses that were either too faint or too smacky, Tim kissed me softly on the cheek; it felt and sounded fine. (182)

In spite of (or alongside, in the classic configuration of reproductive futurism) the imperative to keep it straight, NASA bills, to this day, the kiss as between a mother and a child.

⁷⁶ “Voices of the Dead,” *Phonoscope* 1 no. 1 (November 15th, 1896): 1 in Jonathan Sterne, *The Audible Past: Cultural Origins of Sound Reproduction* (Durham: Duke University Press, 2003), 308.

⁷⁷ Kittler, *Gramophone, Film, Typewriter*, 12.

⁷⁸ The logics of such projects also sidle up to conversations that occurred in photography’s early days about whether the original object is even needed if interest or investment in it can be transferred to a media surrogate like a photograph or a recording. There is a passage Kaja Silverman calls “chilling” in Oliver Wendell Holmes’ “The Stereoscope and the Stereograph” (1859) in which Holmes suggests that once the image

sonic surveillance aimed at capturing last words (Samuel Beckett's *Krapp's Last Tape* (1958) among them) are far more common than biographical ones, which tended to fail partially, and in unanticipated ways. In *The Audible Past*, Jonathan Sterne transcribes an 1890 phonographic missive from Jesse Walter Fewkes, the first anthropologist to use a phonograph in the field, who is heard after nearly a century's lag saying "That shows that the phonograph can be ... [*here Fewkes' voice becomes inaudible*]... for a very long time," simultaneously proving and disproving his point.⁷⁹ When, in 1905, a minister prerecorded his own funeral sermon, which was then played for the assembled after his death, it fulfilled the promise of recording last words only through recording *some* words, then guaranteeing their placement *as* last through leapfrogging.⁸⁰ Suffice it to say that the enthusiasm for such eschatological edicts in nearly all early literature about recorded sound paid little heed to the obstacles blocking the delivery of the plenitude they promised (nor to the impossibility of sorting whatever they did deliver into two neat piles of audible success versus silent failure.)

To Conjure Ghosts

If the promise of media mummification is the promise of persistence after death,

is taken the persistence of the thing is unnecessary: "In fact matter as a visible object is of no great use any longer... Give us a few negatives of a thing worth seeing, taken from different points of view, and that is all we want of it. Pull it down or burn it up, if you please." (*The Miracle of Analogy*, 9). Silverman argues that such an evidentiary application of photography long lived alongside a more unexpected, disclosive, revelatory one, which I find applicable to Chaz in my conclusion.

⁷⁹ Sterne, *The Audible Past*, 287.

⁸⁰ "Preached His Own Funeral Sermon by Phonograph," *Edison Phonograph Monthly* 3 no. 3 (1905), 12 in Sterne, *The Audible Past*, 304.

and if the realization of such persistence could be both media-specific and spotty, Cher's own language of loss acknowledges this. In spite of her broad expression of preference for ghosts (she has said that she "prefer[s] ghosts to some people"), in her own canon of ghost stories, individual ghosts operate differently. This difference is not expressed in terms of personality or plot (the deceased's relationship to Cher or their unfinished business) but through the objects that provide surrogate housings or platforms for the ghosts themselves—lights or answering machines, say. Cher has described her friendly relationship with the ghost of Sonny Bono, who allegedly illuminates her chandelier "when it is impossible."⁸¹ By contrast, Chastity's [sonic] ghost, contained not in a chandelier but in an answering machine, intensifies Cher's mourning, evoking the identity Chaz has now moved beyond, and prompting Cher to slip back into using female pronouns to describe him. As a technology of remembrance, the chandelier that casts light sporadically is to Cher like a memory that returns unbidden, a happy reminder of an absent agent. The message on the answering machine, by contrast, is a place that may be visited until its sudden relocation: Cher knows that once the testosterone kicks in, Chaz will replace this snippet of Chastity with his new voice. Sonny's ghost is gone until the next time; Chastity's ghost is there—can be called up—until it is gone. In filtering her experience of loss through these technological allegories, Cher tacitly acknowledges the role such technologies play in constituting those experiences of loss.

⁸¹ Michael Rothman, "Cher: Sonny Bono's Ghost Plays Tricks on Me," *ABC News*, September 30th, 2013.

Cher is also notorious on the Internet for her profligate usage of the ghost emoji; see the *Buzzfeed* article "15 Ways We Can All Use the Ghost Emoji Like Cher" for a representative example.

To Promise to Call

As in Cher's case, there is an extensive public record of Chastity Bono's voice, from her appearances as a toddler, rosy-cheeked and a bit bewildered, on the Sonny & Cher Comedy Hour, to her own career as co-frontwoman of the band Sanctuary. By dint of its durationality, we might even say that there is more of Chastity's voice—which is to say, of the various voices historically hailed as Chastity's—than there is of voices recognized as Chaz's in the world. Yet Cher experiences the snippet of that pre-transition voice not as preserved in the machine's sanctuary but as evidence of its scarcity: "I will never hear that voice again," she says. And it is to this particular vocal incarnation, the voice set to break off or break free from its "house arrest" in the answering machine, that she attends—not to any of the other voices formerly known as Chastity's that persist in the world in different archives, between jewel cases, or on Youtube, and to which Cher could have instead turned.

In short, Cher tunes into the answering machine specifically to make a claim about a disappearing voice. And the answering machine's history shows it to be tuned into a similar affective frequency, or alert, as Cher is with Chastity's voice, to questions of scarcity. First the answering machine itself was suppressed or made scarce between its actual invention in 1898 and its popularization in the 1980s, which marked the end of AT&T's strident resistance to its usage on public networks for fear that it would decrease call volume and call privacy; later scarcity was embedded in its design, through microcassettes and then cassettes and then the limited cell phone memory devoted to

voice mail, all of which had to be erased frequently.⁸² In Cher's case, of course, the love-object produced by the answering machine provokes her to call more, botching those call volume forecasts. In Jonathan Sterne's take, scarcity marks the early history of recorded sound not only in terms of the finitude of the bodies it was meant to sonically mummify but with regards to the potential decay of the technologies themselves, sparking enterprises like the Indestructible Phonograph Recording Company (itself amusingly short-lived.)⁸³ Later, communication engineers orchestrated decay via a careful calculus of loss, asking what aspects of the telephonically transmitted voice could be lost for profit without producing the feelings known *as* loss.⁸⁴ The concern of audio enthusiasts with so-

⁸² For a brief overview of AT&T's suppression of the answering machine and the magnetic tape, see Tim Wu, *The Master Switch: The Rise and Fall of Information Empires* (New York: Knopf Doubleday, 2010).

⁸³ Sterne, *The Audible Past*, 297-301.

⁸⁴ A 1923 issue of *Popular Science* explained these practices and vociferously defended them as producing a "good enough" voice:

The reason familiar voices are frequently unrecognizable over the telephone is that the modern commercial telephone apparatus does not transmit all the frequencies of the voice...In other words, it is another voice, a changed voice, that comes to us through the telephone receiver...For experimental purposes in the laboratory, perfect telephones have been made. That is, they carry all waves of the voice and preserve all the refinements and individual characteristics of intonation and inflection...To refine [the] telephone apparatus to the point where it would transmit speech, not only intelligibly, but with perfect fidelity as to inflection, would make telephone service so expensive that nobody could afford it. There would be no more point to such refinement of [the] telephone apparatus than there would be to the use of only chemically pure salt and sugar in the kitchen where the commercial grades are quite good enough.

See R.W. King, "The Great American Voice: Fitting 13,000,000 Telephones to 110,000,000 Talkers," in *Popular Science Monthly*, November 1923, 69.

For a scholarly history of this process, see Mara Mills, "Deaf Jam: Inscription, Reproduction, Information."

called lossy versus lossless forms of file compression is but one of many ways sonic technology's self-written history of loss persists.

Beyond affordance, utterance: in the face of scarcity, the typical answering machine message contains a promise to respond. Could it be this promise (whether it is explicit in Chaz's message, or implicit in the message's codified form; since the film does not play it, we do not know) that aggravates Cher's grief? In recent years, the promise has achieved a privileged position in affect theory's analyses of how human subjects experience time, echoing Nietzsche's earlier characterization of man as "the promising animal."⁸⁵ Lauren Berlant opens *Cruel Optimism* with the observation that promises seed futures; its first lines run:

When we talk about an object of desire, we are really talking about a cluster of promises we want someone or something to make to us and make possible for us. This cluster of promises could be embedded in a person, a thing, an institution, a text, a norm, a bunch of cells, smells, a good idea—whatever. [...] the subject leans toward promises contained within the present moment of the encounter with their object.⁸⁶

There is some cluster of promises that hangs, for Cher, on Chastity's voice; keeps her leaning toward a particular future; leaves her hanging on the line when the voice hangs up; leaves her with certain hang-ups. (If I were not taking Cher's sense of loss seriously, I might say that Cher pitches a fit that is fittingly about vocal pitch.) Similarly, in *The Promise of Happiness*, Sara Ahmed notes how often a happy future is dangled—or hung out—as promissory note, receipt contingent on good behavior. In directing subjects to mine certain places for happiness, like marriage and parenthood, it "generates those

⁸⁵ Friedrich Nietzsche, *On the Genealogy of Morality*, New York: Boni and Liveright, 1887.

⁸⁶ Lauren Berlant, "Cruel Optimism," *differences* 17 no. 3 (2006), 20.

places as being good, as being what should be promoted *as* goods.”⁸⁷ Promises may be bribes, or they may be bribed, but either way they construct a future.

This helps us to see why the answering machine might play such a prominent role in Cher’s story: not only because it is a vocal technology (for there are others), and not only because it painfully catches the passage of time (for other things do), but because of the promise contained within it. Each promise flags and fixes the route forward; together; they flatten that route, time’s steamroller. But in structuring desire by building futures for some subjects, promises also bind those who have done the promising, and sometimes impose concomitant waiting periods on *their* desire. Because Chastity makes a promise on the answering machine, the machine enacts a future, and so the disappearance of that voice—which made the promise, now broken—is felt more sorely than any old song.

To Turn Back Time

But it is not just any promise, not just any future, not just any song that Chaz must sing. For the future transgender subjects are increasingly asked to enact is bound up with pastness. Transition is increasingly said to enact the restoration of original selves, in which case it cannot be said to break a promise, simply to turn toward an originary one, in the same way that silence is supposed to stand for “an ideal state of pure, absolute silence.”⁸⁸ With this rhetoric it comes other discursive baggage, piled on those who already carry the burden of plenitude—burgeoning metaphors of being born this way or born again through transition; of transgender conceived as birth defect; of saving

⁸⁷ Sara Ahmed, *The Promise of Happiness* (Durham: Duke University Press, 2010), 6.

⁸⁸ Brinkema, “Silence,” 213.

transgender children from an identity mislaid by mismatched puberty (which preoccupies many of *Becoming Chaz*'s later scenes)—that presume an identity that is intrinsically known to its intrinsic self and flatten time once again.

Together this rhetoric comprises a promise to turn back time, and makes trans people a figure of such a project. Cher's 1989 single, "If I Could Turn Back Time," expresses a similar wish, one it knows is impossible ("If I could find a way," Cher sings plaintively); the mainstream rhetoric of transition increasingly suspends disbelief, or asserts the possibility of that project. In short, these promises find more binding sites than answering machines; they are increasingly written into the language of medicine and the law.⁸⁹

The rhetoric itself colludes with the projects of reproductive futurism that Lee Edelman critiques in *No Future*, but it serves as a bulwark against anti-body modification camps, whose perspectives might be succinctly summed up as "No Suture." One thing such promises have going for them is their capacity to fend off allegations that trans people are engaging in a process of self-mutilation—allegations with which Cher's plaint that Chaz is getting rid of his voice resonates. The fixation of such anti-body modification camps is phallic: As Riki Wilchins archly observes, "Transsexual women are unerringly described as 'cutting off their dicks.' No one ever formulates this act as gaining a cunt—not even lesbians, feminists, or transgender women."⁹⁰ In *Assuming a*

⁸⁹ For some exposition of the medicolegal rhetoric concerning transition to this end, see Gayle Salamon, *Assuming a Body: Transgender and Rhetorics of Materiality* (New York: Columbia University Press, 2010), the seventh chapter ("Withholding the Letter: Sex as State Property") especially.

⁹⁰ Riki Anne Wilchins. *Read My Lips: Sexual Subversion and the End of Gender*, 1997: 193.

Body: Transgender and Rhetorics of Materiality, Gayle Salamon assembles a violent lexicon that has affixed to trans subjects, and been justified on the grounds of this alleged loss of body parts:

Transition is framed as if it were akin to a death or as if the post-transition subject will with hir emergence enact the death of the pre transition subject. Transition is further figured as murderous in discussions of the procedures of FTM transition, which are sometimes described as self-mutilation or, more hyperbolically, “violence against women.” But there is something about these discussions of self-mutilation that very quickly end with the knife pointed the other way. [...] Lesbian writer Alix Dobkin, who frequently refers to FTMs as “mutilated women,” ends one of her pieces against transgenderism with the sentence “let’s put away the knives,” making clear that in her view lesbians are somehow now the target of that violence rather than transmen themselves⁹¹

Chaz’s transition is similarly described in cutting words. One Youtube commenter says of Chaz, for example:

Obviously, Chaz is human & doesnt deserve [the insults he receives] but the whole sex change situation is an off the rails decision & I find it hard to believe that someone who can't love themselves for who they were born as can love themselves after they have maimed or disfigured themselves. I know that he doesn't think it was a disfigurement but instead, a change for the good. Yet, that's the same mentality of people that cut off their own arms & legs. Stop wanting to be something else & start loving you for you.

In this commenter’s view, any modification of the self that changes its contours is maiming or disfigurement; there is a teleology of selfhood that begins at birth, and to modify the body is both to divert this trajectory “off the rails” and to be that way oneself (as such, any preferences Chaz might express on the matter are crammed under bad faith.) Salamon’s project is to show that there are no such rails of being to speak of, let

⁹¹ Salamon, 118-119.

alone a consistent car of bodily self to slide along them. She shows this to be the case by turning to the same example as our commenter: amputation.

The question of amputation, and how it may create an apparent disjuncture between the visible boundaries of the body and its felt boundaries, has figured prominently in debates about bodily realness from the outset. “In discussing phantom limbs,” she writes, psychoanalyst Paul Schilder, who was a student of Freud’s, “takes pains to avoid relegating the phenomenon to pathology, insisting that ‘we’ normal people have phantoms, too.”⁹² For Schilder, in fact, the phantom is the best (dis)organizing principle for the body: “Every body contains in itself a phantom (perhaps the body itself is a phantom).”⁹³ In media studies, by contrast, amputation remains the threat of losing wholeness: in *Understanding Media*, Marshall McLuhan famously advanced the extension versus amputation framework of technology, in which technologies extend and/or amputate preexisting human capacities.⁹⁴ In his view, for example, the telephone extends the human voice, but amputates the art of written correspondence. If we read these ideas together, we might see how McLuhan’s framework offers a basic sense of why a technology like the answering machine, whose primary function is to preserve the voice, could aggravate feelings of loss when the voice itself is what is absent, though it accomplishes this by reifying a standardized sense of human capability.⁹⁵ Technologies

⁹² Salamon, 43.

⁹³ Schilder in Salamon, 22.

⁹⁴ Marshall McLuhan, *Understanding Media: The Extensions of Man*, New York: McGraw-Hill, 1964: 8-11.

⁹⁵ Central to McLuhan’s argument, however, is a kind of cruel optimism: we are ever-enthusiastic about technological enhancements, he says, while underestimating the

like the answering machine shore up particular visions of the self; when the technologies break or their archives are broken into, this gives them grounds to be mourned.

This amputatory rhetoric is, of course, grafted from a broader strain that sees any non-normativity as a lack, a negation, or a loss of social value. That Chaz had to navigate this thorny rhetorical thicket far before he ever contemplated transition is apparent throughout *Family Outing*, the volume on coming out to one's family he wrote as Chastity in 1998, the year of Sonny Bono's death and the year Cher released "Believe."⁹⁶ *Family Outing* is steeped in this standoff between loss and gain, the same standoff that makes bodily change such a fraught affair for trans subjects. Chaz writes, he says, "so that we can see our difference as positive, not negative," and so that parents in turn may replace "their negative view of their child's sexual orientation with the positive qualities in their child that they are proud of."⁹⁷ Affective positivity here requires positive power, for the subject who comes out must remake herself as a particular kind of affective

repercussions of technological amputation. This view would not seem to be borne out by the rhetoric surrounding transgender body modification, according to which, qua Wilkins, everything is cast in the language of loss and never in the language of gain. McLuhan's very use of the term amputation contains a judgment in advance, relying on the impression it makes of a fall from the originary capacity of the supposedly complete body.

⁹⁶ Chastity Bono and Billie Fitzpatrick, *Family Outing: A Guide to the Coming-Out Process for Gays, Lesbians, and their Families* (New York: Little, Brown and Company, 1998.)

⁹⁷ *Ibid.*, 26, 226. Later, Cher would reflect on Chaz's transition in a way that denied that a loss had transpired:

What I've realized, just lately, in the beginning I think I was afraid of losing a child before I got the new one. Of losing the old one before I got the new one. But we have such a great time now, and I realize that there is no loss.

See: https://www.reddit.com/r/IAmA/comments/1nc4sk/i_am_cher_ask_me_anything/

laborer:

It's important to be as positive about yourself as possible. I know that if I had told my mom [Cher] directly she would not have felt so betrayed... If the people you are telling pick up any negative feelings from you, they will immediately question what you are saying (118)

This labor has a vocal bent: telling directly, telling positively so as not to be questioned.

Toward the end of the book, Chaz titles its tenth chapter as follows: "You Are Still Who

You Always Were" (206). The phrase is a kind of koan for, or paean to, the felt sense of an ordinary, whole self. But there is poignance in the fact that only a few pages before,

the author has made her sole reference to transgender people. She wrote, in that moment,

as a lesbian woman, "Together, we will take all gays, lesbians, bisexuals, and

transgenders out of the closet to acceptance, and beyond to empowerment" (184). That

"beyond" is the unknown frontier of becoming, where losses and gains cannot be plotted

in advance, where even our author could not know her future. The discourse of transition

today attempts to shield from that unknown frontier. In its proffering of the promise of

becoming "who you always were," it risks becoming the same kind of mummificatory

project as early technologies of recorded sound, wherein trans people are an icon through

which uncertainty "loses some of its sting," because change is simply a means of

preserving that which was present, that which through technology may continue to be

present.



(Figures 5-7. Covers for Chaz’s books co-written with Billie Fitzpatrick: *Family Outing* (1998), the tenth chapter of which is titled “You Are Still Who You Always Were;” and the first (2011) and second (2012) editions of *Transition*, with alternate subtitles.)

To Not Respond Automatically

In the face of—as the voice of—Chaz’s insistence to not call back *as* Chastity, to amputate that tendril of his vocality, we might read the figure of the answering machine differently. For if it is possible to read it as a kind of tomb, as Cher does, it is also possible to read the answering machine as a place of uncertainty, anxiety, or purgatory: the answering machine does not guarantee response, but rather is a repository for queries, a void to call into.⁹⁸ It serves as a placeholder for a response that may not come.⁹⁹ As such, the left-behind quality of the answering machine runs deeper than the fact that our

⁹⁸ Indeed, we might think of scholarly work itself as conducted in this question-collecting vein—and always requiring fraught adjudication of which collected calls necessitate response.

⁹⁹ In 1982, *A New York Magazine* writer penning a buyer’s guide to the newly available technology was less restrained in her terminology, calling the answering machine “a sort of Roach Motel for messages.” (Elizabeth J. Block, March 29th, 1982)

voices change more rapidly than instruments and archives can capture: the voice always utters before any guarantee of response.¹⁰⁰ In this way, the answering machine comes to seem like a potent miniature of the dilemma of response more generally—it tries to maximize the rate of response, with the understanding that this can only ever be a way of papering over the fear that the response may not arrive.



(Figures 8 and 9: Covers to Cher's 1974 and 1975 compilation albums.)

On the covers of Cher's 1974 and 1975 compilation albums, we see her smiling into twin telephones. "The Very Best of" Cher is a Cher, it seems, who offers her voice, and who stays on the line. The images are also enigmatic. Who is Cher calling? Her own past self? One consistent interlocutor? Is she calling her child, at that point five or six years old, from the road? Is she smiling at the content of a conversation, or in anticipation of one she expects to have as she hears the phone ring? The covers put forth a vision of unbroken hearing and being heard—an unbroken call. But their recursive nature exposes artifice, exposes them as a mummification of a fantasy we know Cher's own history as a caller has not always resembled, because we know not all her calls reach a listener, nor

¹⁰⁰ In this way, it is like Derrida's postcard that can always get lost in the mail. See *The Post Card: From Socrates to Freud and Beyond* (Chicago: University of Chicago Press, 1987); cited in Ahmed, 2014, 218fn34.

even her desired proxy on the answering machine.

Mladen Dolar presses on the heart of the issue when he writes about how the voice “cuts both ways:”

The voice cuts both ways: as an authority over the Other and as an exposure to the Other, an appeal, a plea, an attempt to bend the Other. It cuts directly into the interior, so much so that the very status of the exterior becomes uncertain, and it directly discloses the interior, so much so that the very supposition of an interior depends on the voice.[...]. One is too exposed to the voice and the voice exposes too much, one incorporates and one expels too much.¹⁰¹

Like all voices, Cher’s is both authoritarian and pleading, “an attempt to bend the Other” but also a way of getting bent out of shape. The voice in the answering machine, for its part, both promises futures and speaks from the past; it is at once ensconced, exposed to the possibility of deletion, and so easily embedded in the other.

That the voice always does too much or not enough provides the impetus for continuing to speak. We might recall Descartes here, whose dismissal of animals on the grounds that their responses are automatic serves to raise the question of whether an incompleteness of response or refusal of response is in fact the central quality of any true response.¹⁰² Derrida then takes up this idea in *The Animal That Therefore I Am* (noting as

¹⁰¹ Dolar, 81.

¹⁰² René Descartes, *The Method, Meditations, and Selections from the Principles of Descartes* (Edinburgh and London: Blackwood, 1907), 55–56. This passage is also discussed in Pettman, “After the Beep,” 134–136. Pettman intriguingly notes that Descartes’ own aversion to automatic response may have been a complicated response to his own reliance on it in the face of the loss of a child:

The strong possibility that Descartes was devoted to a custom-made automaton doll of his deceased daughter Francine certainly raises the specter of an intriguing disjuncture between his public philosophy and his private comportment toward the nonhuman. Unfortunately, without the benefit of a time machine, we can only speculate whether he

he does that the French translation for Descartes' automatic responder, *répondeur automatique*, is the same term as for the answering machine): "the question of how an iterability that is essential to every response, and to the ideality of every response, can and cannot fail to introduce nonresponse, automatic reaction, mechanical reaction into the most alive, most 'authentic,' and most responsible response."¹⁰³ In a moment when trans subjects are increasingly asked to make good on certain promises in exchange for the promise of being seen *as* good—when they are asked to be automatic responders, with no real guarantee of reciprocity—such a suggestion of nonresponse is potent. In fact, that the most responsible, alive, or authentic response may entail nonresponse is at the heart of conversations taking place within trans archives at present, conversations whose moments of silence, nonresponse, and modulation are as much a part of those archives as any other.¹⁰⁴ I turn to a few such examples now.

attributed a soul to this mechanical doppelgänger of his flesh and blood, or whether she was elevated to the status of a "real" girl (136, fn6).

While there is no real historical evidence to support this, it was an object of fascinated speculation for later generations. Anatole France wrote a book inspired by the story, *La Rotisserie de la Reine Pedauque* (1893), though strangely swapped out the automaton for a salamander.

¹⁰³ Jacques Derrida, *The Animal That Therefore I Am* (New York: Fordham University Press, 2008), 85.

¹⁰⁴ The proposal that we attend to such silences, sparked by Sedgwick's initial suggestion, sidles up to the approach to postcolonial archives Ann Laura Stoler has proposed, in which reading archives along the grain entails reading them for gaps, lags, and "small gestures of refusal and silence among the colonized." See Ann Laura Stoler, *Along the Archival Grain: Epistemic Anxieties and Colonial Common Sense* (Princeton: Princeton University Press, 2010), 47.

To Dodge Grief

As trans people reconfigure those archives of, or called, the self, it is often parents who try to reconstruct them according to some original model; to construct their stories in order to deliver certain answers *about* them, and to receive certain answers *from* them as well—to bind them to certain promises. In *The Argonauts*, Maggie Nelson writes about an encounter with a student whose mother took her disapprobation about his transition to the local newspaper. The following narrative is not specifically vocal, though it implicitly includes the same vocal changes Chaz underwent and Cher wept over, and it briefs a counter-narrative of grief.

A student came to my office the other day and showed me an op-ed piece his mother had published in the LA Times, in which she describes her turbulent feelings about his transgender identity. "I want to love the man my daughter has become," the mother announces at the outset, "but floundering in the torrent of her change and my resistance to it, I fear I'll never make it across my river of anger and sorrow."

I talked with the student politely, then came home and raged, reading parts of the mother's op-ed aloud. "A transgender child brings a parent face to face with death," the mother laments. "The daughter I had known and loved was gone; a stranger with facial hair and a deep voice had taken her place." I couldn't tell what made me more upset-- the terms with which the woman was talking about her child, or the fact that she had chosen to publish them in a major newspaper. I told you I was sick of stories in the mainstream media told by comfortably cisgendered folks—presumably "us"—expressing grief over the transitions of others, presumably "them."¹⁰⁵

“‘A transgender child brings a parent face to face with death,’ the mother laments,” recalling Cher. Nelson more than laments the lamentation. Yet Nelson’s outrage here found an unexpected obstruction, in the form of her partner, the artist Harry Dodge, who

¹⁰⁵ Maggie Nelson, *The Argonauts* (Minneapolis: Graywolf Press, 2015), 50.

has transformed his body through testosterone. Dodge dodged Nelson's anger—anger which is delivered via the vocal vehicle of reading aloud—by reminding her of her own reactions to his body modification:

Instead, you raised an eyebrow and reminded me that, just a few years ago, I had expressed related fears, albeit not articulated in exactly the same terms, about the unknown changes that might be wrought by hormones, by surgery.

We were standing in our kitchen when you said this, at the same countertop where I suddenly remembered scouring the teeny print of a Canadian testosterone information pamphlet...I had indeed been trying to figure out, in a sort of teary panic, what about you might change on T, and what would not.

You do feel grief-stricken now, but only that you waited so long, that you had to suffer so acutely for three decades before finally finding some relief. Which is why each time I count the four rungs down on the blue ladder tattooed on your lower back, spread out the skin, push in the nearly-two-inch-long needle, and plunge the golden, oily T into deep muscle mass, I feel certain I am delivering a gift.¹⁰⁶

This account of Nelson's contains in it, if not an antidote to rhetorics of bodily wholeness, a hearty crack at them. For alongside the account of her own vocalized outrage (and Harry's measured response to it), there is something else: the grief of measuring out the testosterone so late, which can stand against other narratives of grief like Nelson's student's mother's, like Cher's, and like Nelson's own. Harry's grief is not the grief of not having gotten to be the person he feels he was always meant to be; as Nelson recounts, "'I'm not on my way anywhere,' Harry sometimes tells inquirers."¹⁰⁷ It

¹⁰⁶ Ibid., 51-52.

¹⁰⁷ Ibid., 53.

is simply the grief of having had certain possibilities foreclosed in the face of others' more powerful (because more palatable, more prevalent) language of loss.

For those who do navigate prevailing languages of loss, modifying the self can open onto new ways of articulating and experiencing it, new alignments of self with other. For writer Micha Cardenas, transition afforded her an opportunity to feel a specific kinship with, and specific losses by, her mother:

The year I gained a breast, my mother lost one to breast cancer.
The year I gained my voice, my mother was losing hers to dementia,
brought on by chemo and twenty years of anti-psychotics for her
schizophrenia.
Getting in the car, my mom held my hand in hers and said we have almost
the same color of nail polish on—¹⁰⁸

The same language of metaphysics that chases after vocality from our outset—voices gained, voices lost; sounding out or silent—dogs Cardenas' prose. But her refusal to cordon off her mother's voice from her own with quotation marks—*my mom held my hand in hers and said we have almost the same color of nail polish on*—points to more complicated possibilities. Their hands are held, with nails “almost the same color;” and their voices rest in the same space as well. Here it is transition that makes the loss more keenly felt—not, as in Cher's characterization of Chaz, transition that constitutes the loss itself. Here (as in Cher's case) the question remains whether what is mourned is similitude, and if the poem itself serves to instantiate it.¹⁰⁹

¹⁰⁸ Micha Cardenas, “Sick,” in *Transgender Studies Quarterly* 1 no. 1-2 (2014), 181.

¹⁰⁹ In *Testo Junkie: Sex, Drugs, and Biopolitics in the Pharmacopornographic Era* (New York: The Feminist Press at CUNY, trans. Bruce Benderson, 2013), Paul B. Preciado articulates the taking of testosterone as follows, speaking to the ghost of Guillaume Dustan: “I take [testosterone] to foil what society wanted to make of me...I do it to

To Erase One Self / To Self-Efface

In other trans media, like the television show *Transparent*, such questions about loss and archives, and the way loss may play out *within* archives, are voiced with increasing volume. *Transparent*'s Maura (a retired college professor, née Mort, and herself a trans parent) resists the efforts of her children to make her a repository of familial memory, thus echoing conversations about the ethics of erasure and “the right to be forgotten” that are playing out in other pockets of the political sphere.¹¹⁰ These conversations overwrite the historical dilemmas of durationality discussed earlier, in which technologies are designed to guarantee the persistence of the bodies they mummify, because they trade instead in records that are too persistent, in durations that compete. In *Transparent*'s second season, Maura sends off a batch of childhood photos, of her as the young Mort, to a service that will edit them such that it appears as though she spent those years as a girl. Later, we see scenes of Magnus Hirschfeld's Institut für Sexualwissenschaft (Institute for Sexual Research), of its archives, and then of the 1933 ransacking of those archives by the Nazis.

avenge your death.” Here mourning produces not a call to still change, as in Cher's case, but to change still.

¹¹⁰ For more on forgetting, especially by technology critics concerned with the Internet's archival memory, at once advanced and selective, see, for example: Victor Mayer-Schönberger, *Delete: The Virtue of Forgetting in the Digital Age* (Princeton: Princeton University Press, 2009); Jeffrey Rosen, “The End of Forgetting,” *The New York Times Magazine* (2010); Charlotte Lytton, “Social Media Killed Nostalgia,” *The Boston Globe* (2015); Rob Horning, “Safe in Our Archives,” *The New Inquiry* (2013). Advocacy of erasure by or for individual users must distinguish itself from simultaneous advocacy of “forced invisibility” by ISPs, as Tarleton Gillespie notes (“SOPA and the strategy of forced invisibility,” Social Media Collective Research Blog, January 18th, 2012). These debates risk turning “forgetting” or “erasure” or “invisibility” into the new “silence,” caught, as described earlier, between dual assignments: as political harm or as political strategy.

The show's placing of these two archival modifications alongside each other is an obvious provocation. What does Maura mean to say with those photos—that she cannot be legible without the archive of consistency they proffer? Or that she changes her past because she changes her future and neither need have a hold over the other? Is Photoshop, that rearing bugbear in conversations about fidelity and representation, finally having its day, getting queered? Maura's redaction of her past seems a rejoinder both to those who want to call her transition violent and alternately to those who want that transition not to be violent, for it to be nothing substantial, just the same old self minorly shuffled around, no break, no suture.

As with the show's privileged term, *transparency*, such archival scenes resist a binary of presence and absence and open onto more plentiful representational modulations.¹¹¹ Maura's archival engagements remain resolutely visual, but her writing-over of the photographic archive of her past recalls Chaz's erasure of the voice on his

¹¹¹ As Lisa Gitelman writes of media technologies, "successful" media are often understood through "tenacious, valorizing narratives of dematerialization" ("Media, Materiality, and the Measure of the Digital; or the Case of Sheet Music and the Problem of Piano Rolls," in *Memory Bytes: History, Technology, and Digital Culture* (Durham: Duke University Press, 2004), ed. Rabinovitz, Lauren and Abraham Geil, 199–217): they "start to seem inevitable and then transparent, or transparent and then inevitable" (200); we might say that successful narratives of selfhood operate in much the same way. But in *Transparent's* repertoire, the notion of transparency operates not only according to the logic of being plainly and simply seen, but via a process of rematerialization, through which (for example) childhood photos are shown to be just another artifact, not truth-telling devices. In short, *Transparent's* repertoire (to again use Gitelman's phraseology) makes itself and the other media technologies it embeds "socially embedded sites for the ongoing negotiation of meaning" (Gitelman, Lisa, *Always Already New: Media, History, and the Data of Culture* (Cambridge, MA: MIT Press, 2006), 6.) Cited in Nick Seaver, "'This Is Not a Copy': Mechanical Fidelity and the Re-enacting Piano," *differences* 22 no. 2-3, 2011.

answering machine. If the power of asynchronous, left-behind media was always their indexical, umbilical quality, or their ability to conjure ghosts, Chaz and Maura both shoo certain ghosts away; they both self-efface.

Like *Transparent*, *Becoming Chaz* is cheeky in its examination of this archival strategy: we hear Cher sharing grief over the voice's imminent demise, but the voice being grieved is not heard, which is to say, the erasure is both documented and itself erased, and with it the possibility for the viewer to occupy Cher's position. Nor does the narrative force Chaz to contend with, or speak to, that erasure. Instead, against the various looming originary selves both facilitating Chaz's own becoming and threatening to flatten his remaining days, *Becoming Chaz*'s opening scene sees Chaz speaking to those originary selves—or more precisely, denying their ability to speak to him. From behind the camera and a still-black screen, some acousmètre or director asks, "What's your earliest memory?" Chaz responds: "I don't know...I don't have memories till later in life." Elsewhere, Chaz notes how collective memories threaten to engulf him: "For years, random people have approached me with their memories of me as a young child, hoping I will share in their enthusiasm and offer some pearl of nostalgia from the family vault. What they never seem to have understood is that those memories are theirs, not mine."¹¹² Like the voice he inherited from his mother and her mother before that, such demands are made weighty by their placement in "the family vault;" like metaphors of the closet or the crucible or the answering machine, "the family vault" encloses the subject.

¹¹² Chaz Bono and Billie Fitzpatrick. *Transition: The Story of How I Became A Man* (New York: Dutton Penguin, 2011.) The language of the originary self haunts this book: in the second edition of the memoir, the original subtitle is swapped out for a familiar one "*Becoming Who I Was Always Meant to Be*," and the accompanying photograph for a more-masculine image of Chaz.

In the face of the public's sense of ownership and Cher's feelings of loss, in the face of the patent appeal of discourses of turning back time to which Chaz himself sometimes accedes, in this moment Chaz asserts his desire to joyously lose parts of himself, to reconfigure or just get rid of the archive that is his body and the different technological archives that exist of it—to make way for another voice. From within the matrix of accusations about the self-erasures of transgender subjects, Chaz records over his outgoing message. We do not get to hear it—we are dropped from the call. Even as the media made by and about him remains haunted by the phrase, he is no longer—nor was he ever—who he always was.¹¹³

In spite of Cher's efforts to make the answering machine a homing device, one that would return Chastity's voice to her, the sound of the answering machine haunts in more than one way. The voices it captures are always running along behind (or was it ahead?) of fantasies of the self, unaware of where they will lead (in the same way that Chastity or her ghostwriter, penning the word "transgenders," was unaware) and of the promises they

¹¹³ The notion that erasure or disappearance or absence might be a prerequisite for communication finds a strong advocate in Maurice Blanchot, who wrote that the "basis of communication" is "exposure to death, no longer my own exposure, but someone else's, whose living and closest presence is already the eternal and unbearable absence, an absence that the travail of the deepest mourning does not diminish. And it is in life itself that the absence of someone else has to be met. It is with that absence—its uncanny presence, always under the prior threat of disappearing." See *The Unavowable Community*, trans. Pierre Joris (Barrytown, NY: Station Hill Press, 1988), 25.

Where this thesis argues erasure as a weigh-station for becoming, and as a way of making room for new analogies and new relations, Leo Bersani cites a more radical possibility for erasure. "A universal relatedness is grounded in the absence of relations, in the felicitous erasure of people as persons," he writes, sparked by a thought in Guillaume Dustan's *In My Room*: "'When no one really exists, there is room for everyone' (111)." ("Shame on You," in *After Sex?*, eds. Janet Halley and Andrew Parker, Durham: Duke University Press, 2007: 95)

may have to break along the way.¹¹⁴ The technologies of transition—from testosterone to Photoshop—join the answering machine in a long lineage of media technologies used to contend with death and change (or in the case of transgender subjects, changes which have often been described as deathly.) Sometimes, they serve to shore up an originary self—to embalm, mummify, or “stow...in the hold of life;” to turn back time. Sometimes, instead, they follow filaments of connection to disclose truths about the social that might otherwise get overlooked. In following more of these filaments—in walking the wire between Chaz’s narrative of becoming and Cher’s own, the focus of the next chapter—we might see or hear which connections get codified, coils stretched through customary use, and which trace promises we are all too accustomed to breaking, calls we habitually put on hold. It is always the tension between binding up those threads, as with a mummy, and letting them trip us up—letting voices tip us out onto the new ground they break.

¹¹⁴ Strictly speaking, *Family Outing* (alongside Chaz’s more recent memoir *Transition*) had a co-author, not an invisible ghostwriter, but the phrase remains fitting. For the reader attempting to discern something about Chaz’s subjectivity from these co-written texts, collaboration renders close reading ghostly, foiling—in a way I imagine Chaz would appreciate—any reader’s attempt to pin him down.

Interlude – Two Stories This Chapter Lost

Writing about Chaz, Cher, and changing voices, my mind wanders, and I start thinking of haircuts: of Cher's cuts, ever-changing and earning her a line in the Flaming Lips' most famous song: "I know a girl who / reminds me of Cher / she's always changing the color of her hair."¹¹⁵ One night, in Los Angeles last September, I stood in front of a mirror with J, a childhood friend. J studied sound design in college and is a sound engineer for famous television shows. His mother died suddenly a few years ago; in a small consolation, J had transferred to a school close to home a few months prior, so he saw her often before it happened. J also does drag performances on the side, and that night we were trying on wigs from his collections: platinum, a Daria-red bob, lavender, teal. We sent a selfie to another childhood friend who had recently lectured J on his finances, alleging that J spent too much money on wigs. As I reached for a brown wig in the pile, combing a small tangle with my fingers, J paused. "I can't wear brown wigs," he said. "I remind me of my mom."

For J, what's haunting in the case of the brown wig is the apparition of a familiar face that has become less familiar with time. (As I put the face and the 'do together in the mirror, they haunted me, too.) But there are also ways we can be haunted by unfamiliar things, and particularly by the sense that the unfamiliar ought to be familiar. In *The Telephone Book*, Avital Ronell writes of this process happening vocally: "the voice does not call you to return home or to yourself, but calls you to where you have never been

¹¹⁵ In singing of Cher in this way, the *Flaming Lips* confirm Alexander Doty's insight that "highbrow, middlebrow, or lowbrow, all divas, at one point or another, seem to be judged by their hair" ("Introduction: There's Something About Mary," *Camera Obscura* 22 no. 65, 2007: 1-9, quotation on 6.)

and to the nonfamiliarity haunting the familiarity.”¹¹⁶ I think of this when I revisit a conversation with Julia, a transgender woman who told me a story about an answering machine, a story quite different from Cher’s:¹¹⁷

I have a friend who had some sort of breakdown with regards to her transition. Her female voice just came out. She’s yet to transition, but she really needs to. She described it as though she had this physical breakdown. She’s funny, too—she uses that voice on her answering machine, and everyone thinks it’s her secretary.

For Julia’s friend, her voice leads her away from who she thinks she is: not back to an ordinary self, not toward an inner sense of herself, but to a point of breakdown, out of which the feminine voice erupts, and in so doing breaks with its own spoken past. It is not a homecoming or a birthright but “the nonfamiliarity haunting the familiarity.” Here the answering machine is not a homing device but a holding cell. The voice that comes out, the voice that finds the answering machine as its vessel, is a voice that demands a hearing. It upsets things. It silences, it must be said, the old voice; it erases its proxy on the answering machine, and the promise it voices. It upsets Julia, who fears “losing herself” through modification, but soon thereafter confronts her partner with the coming-out of her own voice:

I tried to present [as my female self] to my ex-wife. I kind of forced it on her, which I now know is a no-no. She was really angry that night, but afterward she said, “Your mannerisms, your voice, everything was different.” She wasn’t talking about the wig, or the dress, or the makeup. To me, that was so interesting and validating. I wasn’t doing it on purpose—it was just me.

In this moment, Julia is all aflutter, suspended, mixed-up. There are the performative props—the wigs, the dress, the makeup—and then there is something else. That

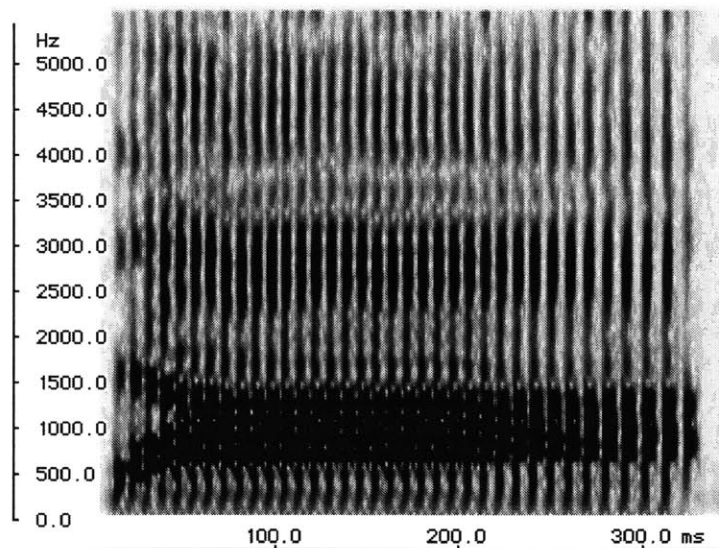
¹¹⁶ Avital Ronell, *Telephone*, 69.

something else, that uncanny remainder of vocality and mannerism, cannot be called forth “on purpose.” It cannot even be known in advance. With the clarity of a clarion call—“just me”—it cuts through the trappings of the self Julia thought she knew she was. Like her friend’s voice, it upsets things. It upsets people. It demands a hearing. It forecloses on the promises it once made, fruits of (or bribes for) a different register. The voice is unwilling to remain where we think we are; through this quality, we are undone by it and remade by it.

Chapter Two / “You Can See All The Imperfections in Your Voice:” Auto-Tuning, Tuning Up, and the Gender of Visible Speech

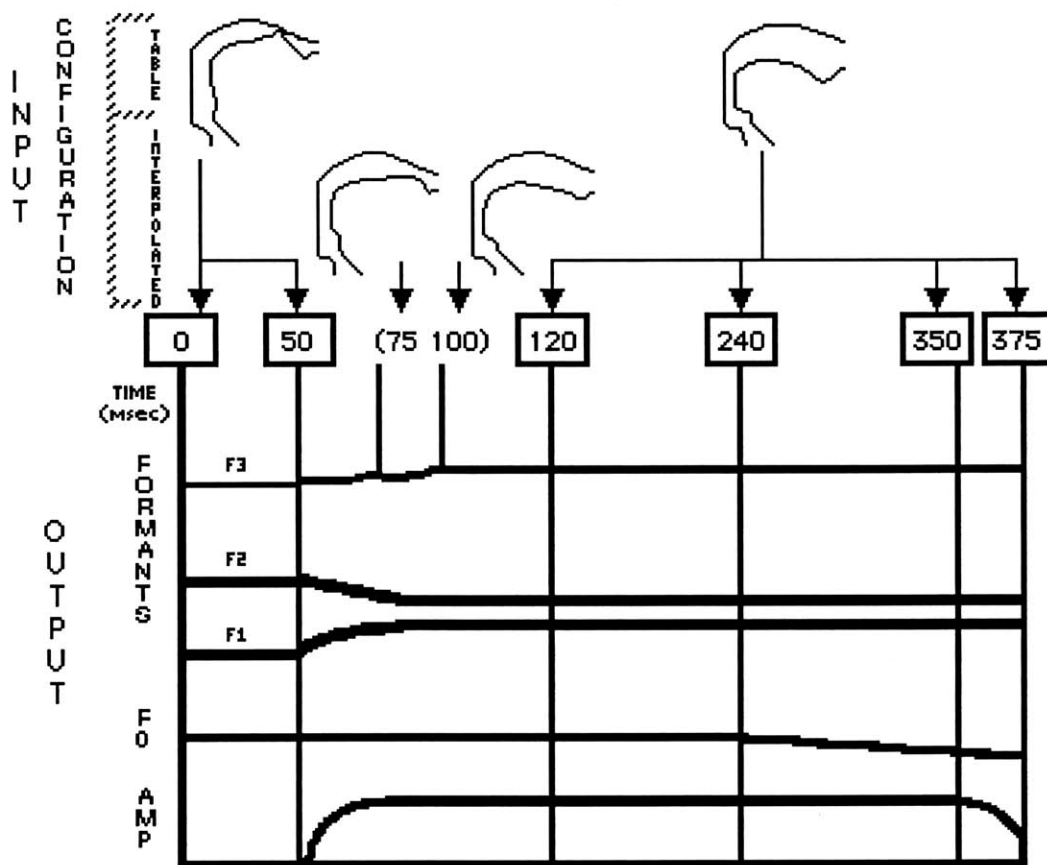
This chapter is something like a spectrogram, a reading of the voice produced by an instrument called a spectrograph. It purports to write an account of what happens when technologies—spectrographs, Auto-Tune, and other onlookers—purport to write accounts of voices. For the most part, these voices (purportedly) sound like male voices, although they are possessed by women. For the most part, they cause their bearers some disapprobation. The ways they are written about offer me something to write about here, and to stage some showdowns: blurs versus lines, Cher versus Rosie O’Donnell, the spectrograph versus its readers, Auto-Tune versus Auto-Tune.

Here is a spectrogram of the phoneme /da/, a phoneme that is also Cher’s nickname for Chaz. This spectrogram purports to write an account of what happens when the phoneme /da/ is articulated by a speaker. It maps the frequencies produced along a y-axis in hertz, over the course of approximately 300 milliseconds of an x-axis in time.



(Figure 10: Haskins Laboratories 2008, *Articulatory Synthesis—/da/ spectrogram*. Yale University. <http://www.haskins.yale.edu/facilities/DYNAMIC/DA/daspect.html>.)

Articulatory Synthesis of /da/

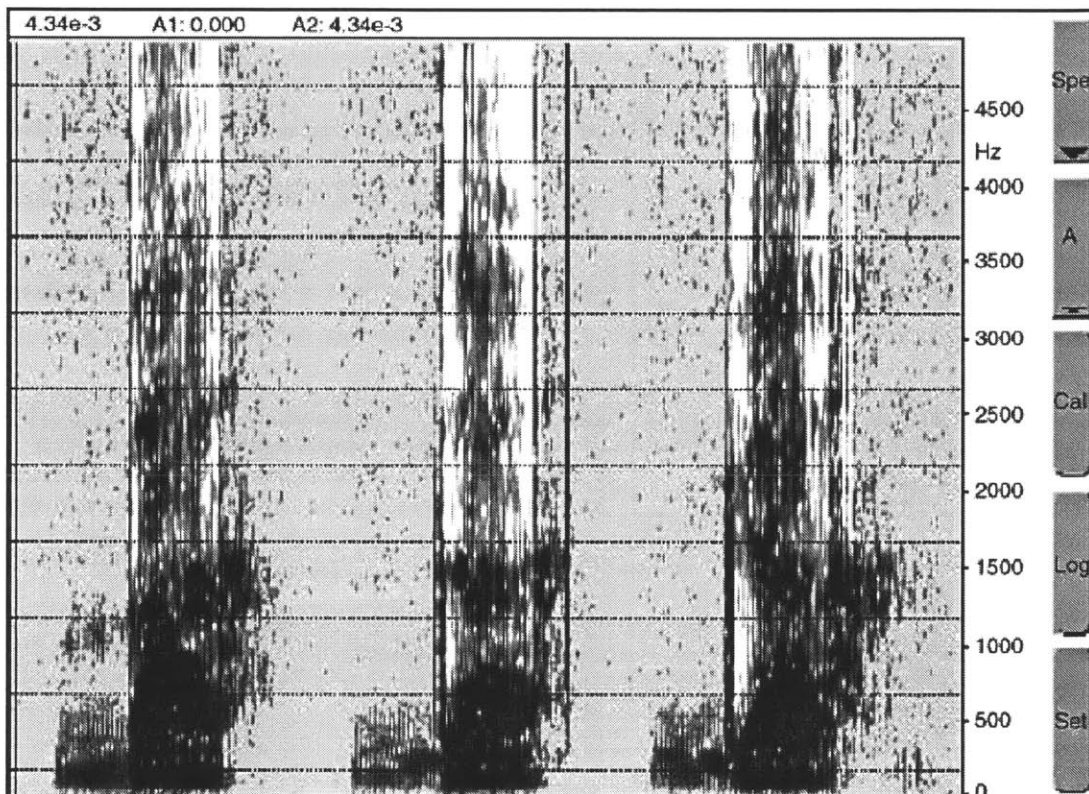


(Figure 11: Haskins Laboratories 2008, *Articulatory Synthesis—Articulatory Synthesis of /da/*. digital image, Yale University. viewed 31 July 2016. <http://www.haskins.yale.edu/facilities/DYNAMIC/DA/dasyn.html>.)

This second image purports to write an account of what happens when the spectrogram purports to writes an account of what happens when the phoneme /da/ is articulated by a speaker. Atop the cross-hatching, mouths pose: first the tip of the tongue touches the roof of the mouth for a beat, then retreats. The formants, stacked unevenly below, represent bands of frequencies. The whole heap rests on f_0 —the fundamental

frequency, which determines everything from a voice's perceived gender to the spacing of harmonics.

Despite its doubly foreboding name, students of acoustics get quizzed on f_0 early. "If the fundamental frequency is 125 Hz, what is the probable gender of the speaker?" asks Michigan State University's Descriptive Phonetics course. "202? 88?"¹¹⁸

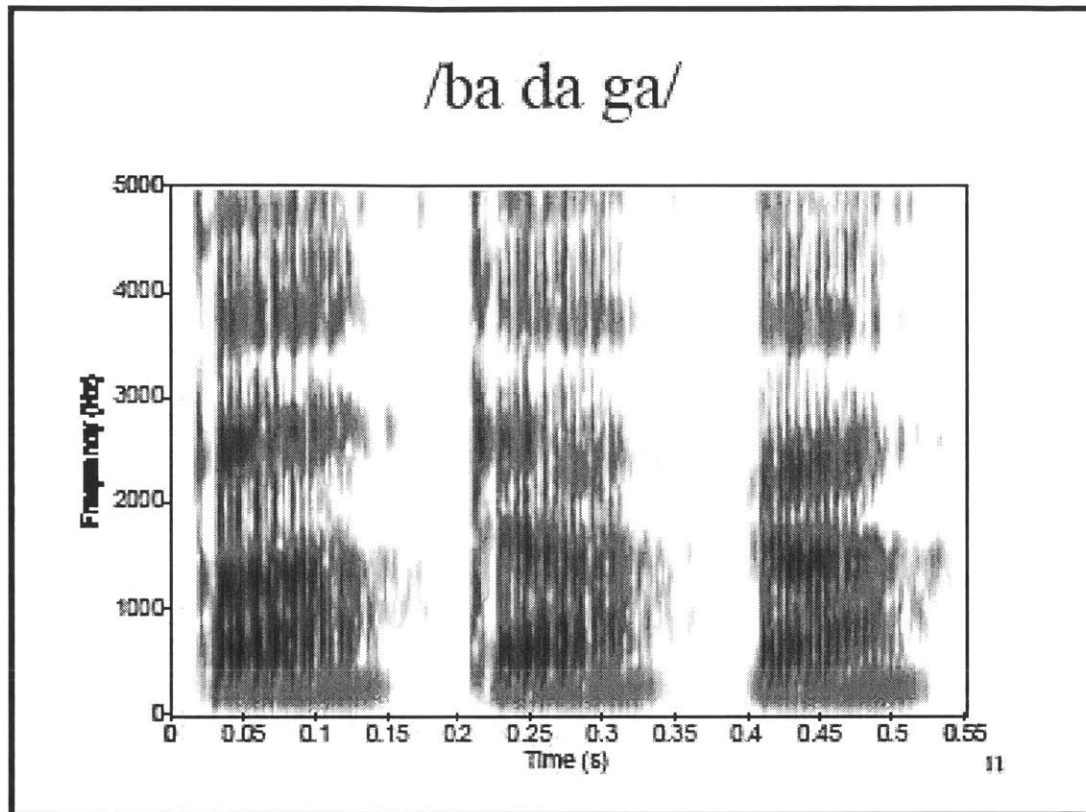


(Figure 12: Tsur, Reuven. "Size-Sound Symbolism Revisited." *Journal of Pragmatics* 38 (2006): 905-924.)

Here is another spectrogram. It purports to write an account of what happens when the phonemes /ba/, /da/, and /ga/ are uttered by one speaker. As you can see, with three sounds in a short period of time, the attention the spectrogram can give to each is limited.

¹¹⁸ John Eulenberg. "Fundamental Frequency and the Glottal Pulse," *Descriptive Phonetics*, May 8, 2011, https://msu.edu/course/asc/232/study_guides/F0_and_Glottal_Pulse_Period.html.

With the spectrogram, space and time compete. A single /da/ can sprawl. With three phonemes, it condenses and blurs.



(Figure 13: Unknown. "Glossary of exam 4 speech science." digital image, *cueFlash*. viewed 31 July 2016. http://cueflash.com/decks/exam_4_speech_science.)

And another, this time of unknown provenance and from an internet flashcard. It also purports to write an account of what happens when the phonemes /ba/, /da/, and /ga/ are uttered by one speaker. /Ba/, /da/, and /ga/ tend to go together in spectrograms, because they are close, but not the same. Because of this, /ba/, /da/, and /ga/ become the basis for many comparative studies in mediated vocality, and for flashcards.

Like our phonemes, the clusters of history I write about here are similar but not the

same. Like voices in space, they commingle. They suffer, as one bearer moans, from “unfortunate closeness.” They trouble the ways boundaries get drawn around individual voices, marking them as too low or too gay or too mechanical. For me, they trouble the way ethnography draws a boundary around individual voices as sites of inquiry. If only the trajectories of these voices could be as simple as a waveform on a heart monitor, or a conventional narrative of becoming—or a line. Instead, they blur.

Like the way a spectrogram distills a voice into discrete bands, this chapter distills histories of visualized voices. It proceeds in four parts:

I. Auto-Tuning: On Sounding Like Oneself, Or What Not To Sound Like

In which: The queerness of Cher’s own voice arrives in a series of turnings. Her voice’s low pitch, when heard acousmatically, has the ability to turn her into a gay man; with Auto-Tune, she is a robot; she is “unfortunately close” in pitch to Rosie O’Donnell. Throughout, this troublesomeness turns others toward or away from her.

Let’s begin, again, with Cher. Cher is something like our chapter’s fundamental frequency, or our throughline—though her own trajectory, of which I will give some outlines shortly, could hardly be called linear. In closely reading Cher’s own career as a singer on the heels of my reading of the answering machine, I will find Cher’s concern about locating a resting place for the left-behind parts of Chastity to be equally applicable to Cher’s own person. Attending to Cher’s voice, deeper than most, offers us a deeper reading of her reaction to Chaz’s new voice. From what follows, I can infer that Cher perceives the deepening of her child’s voice as loss not only because it is a vocal change but because having a deep voice has been Cher’s own loss.

As quick as Cher is to allege that her child's true voice is the one on the answering machine, and that she is heartbroken by the break he occasions in it, Cher's assessment of her own voice has been more belabored. "I just don't sound like me to me," says Cher, in a 1996 interview with Rosie O'Donnell, reflecting on a song from 25 years prior. Recording artists, by dint of the extensive public records of their lives, were early adopters of the time-lapse (sonic) selfhood for which early sonic technologists advocated, which advocacies I parsed in the previous chapter.¹¹⁹ If the covers of Cher's 1974 and 1975 compilation albums established her as a caller in the years just before the answering machine entered the scene, later Cher would reflect on a lifetime of being enmeshed in sonic technology, from the answering machine to quotidian recording tactics to her pioneering use of Auto-Tune.¹²⁰ Through the record(s) of Cher's career, we can examine her stances toward the elapsing of time and toward what she perceives as lapses in her selfhood, particularly in its sonic properties, as she seizes on moments of not "sounding

¹¹⁹ Through the existence of such records, musicians served as a collective site to assuage anxiety about the loss of the voices of celebrities and other notables, one which Jonathan Sterne notes was sometimes ventriloquized as the desire of those celebrities themselves: Tennyson's 1835 call for "the touch of a vanished hand and the sound of a voice that is still," heard already as an epigraph here, gets reconfigured in an 1891 issue of the *Phonogram* as a call to never again lose a famous voice like Tennyson's; see Sterne, *The Audible Past*, 297, 327.

¹²⁰ If we learn about Cher's relationship to the answering machine via paratext--*Becoming Chaz*, or her donation of her voice to a fundraiser for the charity Autism Speaks in 2013 in which she recorded the answering machine messages of fans in exchange for a donation of \$299, first-come, first-serve (Autism Speaks: another vocal headline, and tactic, for activism)--other musicians actively made the answering machine a part of their musical project. In 1983, The Replacements sang, "How do I say I love you to an answering machine?"--sang about a problem of replacement. That same year, a track of John Lennon's surfaced posthumously, "I'm Steppin' Out," which advised, "Just leave a message on the phone and tell them to screw it," thus making the song itself, which expressed a very different affective stance, a figure of the original project of sonic memorials discussed on pages 14-16. In Pettman's "After the Beep," he discusses instances in which such messages are embedded in songs; see especially 134-35.

like herself.” Listening to Cher’s voice not only serves as a site of simple audition, but also a site where her voice is judged, in audition’s alternate meaning; she auditions for herself as well, and tunes her voice to how she thinks she ought to sound. Long before her song “Believe” became the first to audibly use Auto-Tune, Cher auto-tunes.



(Figure 14: Rosie O'Donnell, *The Rosie O'Donnell Show* (1996; New York: NBC), Broadcast.)

Let us visit her in 1996, in that interview with *The Rosie O'Donnell Show* (Figure 14), where she is promoting her newest album, “It’s A Man’s World.” Rosie greets Cher upon arrival by singing a bar of one of Cher’s songs, as if Rosie is not Cher but Cher’s puppet master, since she is also walking a Cher doll across her desk as she sings, wiggling it such that its black polymer hair swings around its vinyl body. As Cher approaches, O’Donnell tosses the doll aside. Cher’s response is one of consternation: “Do I really sound like that?” Is that really the way I sound?” To Cher, O’Donnell shakes her head; to the audience she gives a cheeky nod. Relenting, Cher acknowledges: “I think it’s

unfortunately close.” “Unfortunately,” because Cher’s voice and Rosie’s, neither typically feminine, are more sonically proximate than Cher would like to admit. Cher turns back to Rosie, and to a new topic: “What about your hair? We’ve got to talk about your hair.”

In this brief exchange between the two women—the one a closeted lesbian; the other mother to a child who had formally come out as a lesbian on the cover of *The Advocate* the year before (in a ritual O’Donnell would soon repeat—see Figures 15-17), and whose ex-husband, Sonny Bono, would co-sponsor the Defense of Marriage Act that same year—a song of normativity is sung. It begins with the claiming of Cher’s voice (and her miniaturized, commodified body) as public, met by Cher’s counter-refusal of similarity to O’Donnell’s voice (phrased as unfortunate closeness), with further stops along the way for discussion of O’Donnell’s new highlights and of Cher’s tattoos (which O’Donnell jokes she plans to etch on the doll for accuracy, and which Cher says she’d like to remove, in the interest of “looking at my butt just once before I die and just see[ing] it.”)



(Figures 15-17: *The Advocate*, April 1995, November 2002, July 2011.)

Like the hair or derriere zoned as spoiled in Cher's exchange with O'Donnell, Cher's voice has long been a fraught site for her—and others'—negotiations of her identity. Twenty years later, she would reflect on the release of her first single, "Ringo, I Love You":

Elvis was really my biggest inspiration [growing up], because my voice was so not girly (first record I put out was called Ringo, I love you, and they wouldn't play it because they thought I was a guy). He was the only artist I could really identify with.¹²¹

If Cher phrases her disapprobation at hearing something like her own voice emitted from O'Donnell's mouth as a matter of unfortunate closeness, unfortunate closeness is also at stake with the judgment of "Ringo, I Love You" by her recollection's uncertain "they." By some arbiter, Cher gets disqualified on the grounds that her disembodied voice is too masculine; alongside the song's title—"Ringo, I Love You"—it is heard not only as acousmatically masculine but as the voice of a gay man. This adjudication of vocal inadequacy links her to the titular love-object: Ringo, of course, was famous for having less than an octave of vocal range, which forced John and Paul to write songs for Ringo's baritone that were constrained in their melodic qualities.

When talking about what the 1990s meant for queer people, one often discusses the quasi-*visibility* of figures like O'Donnell, or the *visibility*-as-public-health-category that came with HIV/AIDS; this exchange foregrounds the quasi-*audibility* of facets of queerness in the era, and Cher's ambivalence toward them: she is reluctant to align her deep voice with O'Donnell's, even as she expresses skepticism about extant gendered

¹²¹ Cher, "Ask Me Anything," Reddit series, September 28th, 2013, https://www.reddit.com/r/IAmA/comments/1nc4sk/i_am_cher_ask_me_anything/

power structures (“It’s a Man’s World.”) Sounding queer—more often articulated as an area of concern for men than it is for women—governs the interaction between these two women here as a matter of unfortunate closeness, just as it governs the failure of “Ringo, I Love You.”¹²² In both cases, failure produces misidentification: consider that Cher’s filiation with Ringo is concealed in a parenthetical, within a passage whose ostensible purpose is to claim Elvis as “the only artist I could really identify with.”¹²³

To O’Donnell, she says, “When I hear ‘Half Breed’, it just doesn’t sound like me to me.” “Half Breed” was Cher’s 1973 song told from the perspective of a Native American woman and detailing the insults she regularly encountered. After the song’s release, Cher, who is primarily of Armenian descent, claimed 1/16th Cherokee ancestry on her mother’s side, though this has never been confirmed through genealogy. We cannot know whether Cher’s comment about not sounding like herself in “Half Breed” refers to the song’s actual sound, to the identity its lyrics asked her to take on, or to other aspects of a performance and production process at that time already 23 years in the past.

¹²² A recent documentary, “Do I Sound Gay?” explores the supposed consistency of the gay male voice; see also the work of linguist Lal Zimman on perceptions of transgender men as “gay-sounding” cited above, fn 22.

Against this backdrop, the answering machine sometimes became (and perhaps still becomes) an instrument of vocal discipline, a precursor to the software for vocal self-surveillance I discuss in Chapter Two. In *How To Be Gay* (Cambridge: Harvard University Press, 2012), David Halperin writes,

An acquaintance of mine, a gay man of my own generation, still records the message on his answering machine thirty times over, until he’s sure his voice reveals no traces of effeminacy. There’s nothing tongue-in-cheek about such a performance: it couldn’t be more earnest (55).

¹²³ For more on the limitations of an identificatory politics for queer subjects, see Tim Dean, *Unlimited Intimacy: Reflections on the Subculture of Barebacking* (Chicago: University of Chicago Press), esp. 21-28.

Either way, the interval indeed aligns her with Elvis, whose own voice skirted racial ambiguity: not immediately recognizable as white or black on the radio, Elvis' voice eluded what Rey Chow calls "skin tones."¹²⁴ And either way, Cher's litmus test for selfhood here is a sonic one. Encountering her voice in disembodied form tells her what it is (or what it is not) to "sound like me," just as the same line of thought gets her disqualified.

As, in the previous chapter, Chaz's partner Jenny knows that Chaz is not Chastity because he "sound[s] so wrong with that voice as Chastity," Cher's sonic selfhood operates according to the differential logic of the signifier: she knows what it is to sound like herself by hearing a song that does not sound to her like herself. In one case, the wrong voice casts doubt on the forces that produced the Cher of "Half Breed," while in the other case the rightness of the current voice casts doubt on the forces that continue to compel the production of Chastity as a politically, legally, and economically significant entity on occasions such as the purchase of airline tickets. Where these accounts of

¹²⁴ Rangan describes Chow's "skin tones" as the logic by which voices are made "subject to a form of surveillance whose logic is visual" and specifically racial ("Voicelessness," 116-117.) A South Asian call center employee, for example, may go by a Western name on the line, but listeners may read her accent and syntax for traces of her geographical location; see Rey Chow, *Not Like a Native Speaker: On Linguaging as a Postcolonial Experience* (New York: Columbia University Press, 2014), 7-9.

Cher's alignment with both Ringo and Elvis—her audible ambiguity on more than one front—underscores Alexander Doty's point, in the introduction to a special issue of *Camera Obscura* on divas, that divas do "category trouble," that they are about "troubling and breaking out of their 'proper' culturally assigned sex, gender, sexuality, class, national, ethnic, and racial spaces" (4). See "Introduction: There's Something About Mary," *Camera Obscura* 22 no. 65, 2007: 1-9.

For more on Elvis' voice, see Michael T. Bertrand, *Race, Rock, and Elvis* (Urbana-Champaign: University of Illinois Press, 2001.)

Cher's and Chaz's chafe is in their point of convergence: the ghost—for Chaz, the wrong voice, happily vanquished; for Cher, the right voice, haunting—of Chastity's voice in the answering machine.¹²⁵ That they *do* chafe—that they contest a voice with the same sonic properties, in fact, the same voice—is further evidence that no voice simply sounds like itself, but sounds, in a much more complex relationship, according to the various other sonic actors it encounters. And this relationship is often governed by a warding-off of certain kinds of voices, which is phrased in the explicit language of distance: that which is “unfortunately *close*.” Cher's closeness to the voices of a butch woman, to a gay man, to an ethnic other (and, with the advent of Auto-Tune, to mechanical sounds) lead her to surveil herself and to be surveilled.

In the studio, this logic of distancing was literalized. At the beginning of her career, aided by Sonny Bono's inroads, Cher sang as a back-up singer. Not only was her role defined spatially—the *back-up* singer—Cher learned that some back-up singers need to be further back than others. In a 1992 interview, she reflected:

I have such a distinctive voice. You can hear it if you listen closely. I had to stand five feet behind everybody else when we were recording because my voice just wouldn't blend. It kind of cut through. It got to be a joke in the studio. “One more step back, Cher!” But, I can always hear my harmonies.

¹²⁵ The ghost in the machine is a concept that has migrated beyond its original coinage in Gilbert Ryle's 1949 analysis of Cartesian dualism (*The Concept of Mind* (Chicago: University of Chicago Press) to come to stand for wider discussions about automation and artificial intelligence.

As Mladen Dolar points out, early “speaking machines” were often exhibited alongside early automata, with the implication being that the voices they produced—the materiality of the sound beyond language—adduced the first signs of independent thought. “The second machine [the thinking-machine] appeared as the fulfillment of the promise given by the first [the speaking-machine]” (9). See 7-11 of *A Voice and Nothing More* especially.

A voice that doesn't "blend," that "cut[s] through," that is the impetus for jokes—Cher's voice breaks order, and in so doing recalls the way women's voices, since antiquity, have been prone to categorization as unwanted sound.¹²⁶ A few years prior, in 1987, Cher had categorized her own voice as such, stating:

I'm not the best singer in the world. I can't listen to my voice. I don't like it. You see all your mistakes when you hear your voice. You see all the imperfections.

Twice here Cher conflates the visual and the sonic: "You see all your mistakes when you hear your voice. You see all the imperfections." But as Chow notes in outlining her concept of "skin tones," voices often serve to exclude by participating in a logic of difference that is visual; by her analysis, the notion that imperfections or mistakes could be seen by way of being heard is apt. Moreover, Cher's phrasing comes to seem prescient in another way, as "see[ing] all the imperfections" increasingly became part of the music-making process, as Cher's voice paired up with a new audio technology, Auto-Tune. When *Time* journalist Josh Tyrangiel called Auto-Tune "Photoshop for the human voice,"^[29] the analogy was apt: it foregrounds the visibility of Auto-Tune, and other, projects of visible speech.

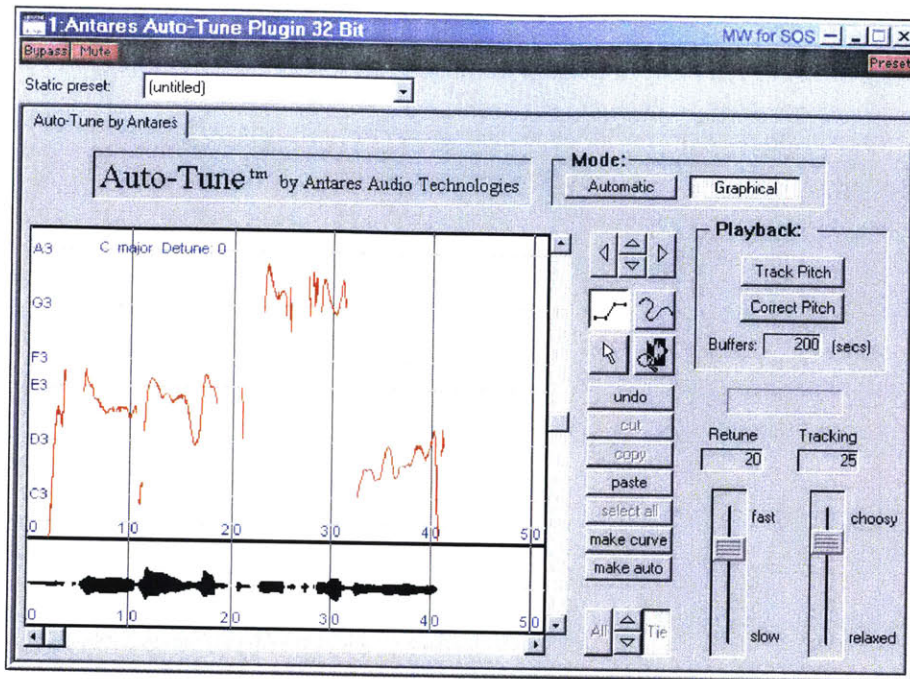
In 1998, two years after the interview with O'Donnell, Cher's single "Believe"

¹²⁶ This categorization depends on its own spatial logic, which reinscribes earlier concerns about unfortunate closeness inside the body, as a matter of *improper proportion*. Anne Carson writes in "The Gender of Sound" that women have long been seen as possessing "the wrong kind of flesh and the wrong alignment of pores for the production of low vocal pitches, no matter how hard they exercised;" see *Glass, Irony, and God*, New York: New Directions, 1995: 120. Shigehisa Kuriyama makes a similar point when he notes that for the ancient Greeks, vocal articulateness was bound up with a well-articulated body. See Shigehisa Kuriyama, *The Expressiveness of the Body and the Divergence of Greek and Chinese Medicine*, New York: Zone Books, 1999.

became the first song to use Antares Auto-Tune pitch-correction software as a vocal effect rather than an inaudible corrective. 35 seconds into the song, on the words “I can’t break through,” Cher’s voice breaks into an electronic register: not recognizably human, nor recognizably machine. The song’s producers, Mark Taylor and Brian Rawling, initially lied and said that the effect was due to a vocoder, or a voice coder, which had been invented by Bell Laboratories in the years prior to World War II as a voice encryption technology and later used to produce robotic-sounding voices in music.¹²⁷ The pre-war and wartime eras heard many seminal sound technologies produced at Bell Labs, including, in addition to the Vocoder, the Voder (which produced synthetic speech) and the spectrograph. Auto-Tune reactivated earlier Vocoder-driven experimentation with, and anxiety about, robotic-sounding voices.¹²⁸ Its spatial interface (see Figure 18) provides a new field for the disciplining of Cher’s voice, while harkening, in its visual representation of that voice, back to the spatial ways in which her voice was always understood—as in need of backing up, subject to unfortunate closeness, and rife with imperfections both seen and heard.

¹²⁷ For a detailed history of the Vocoder, see Dave Tompkins, *How to Wreck a Nice Beach: The Vocoder from World War II to Hip Hop, The Machine Speaks*, New York: Melville House Books, 2010; for an exploration of the significance of the Vocoder for thinking on race and the post-human, see Alexander Weheliye, “‘Feenin’: Posthuman Voices in Contemporary Black Popular Music,” *Social Text* 71 (20:2): 2002.

¹²⁸ T-Pain, perhaps the leading practitioner of Auto-Tune, gave voice to this anxiety in a recent acoustic concert for NPR (the most popular to date in their Tiny Desk series). Grinning at the audience, T-Pain says, “I know everybody is wondering where the Auto-Tune is going to come from. It’s okay, I got it in my pocket, it’s totally fine. I got it right here. It’s all surgically inserted.” *National Public Radio*, Tiny Desk Concert, T-Pain, October 29th, 2014, accessed at: <http://www.npr.org/event/music/359661053/t-pain-tiny-desk-concert>



(Figure 18, early Auto-Tune interface.)

Curiosity about mechanized voices has always been tinged with fear of mechanized labor and artificial intelligence—as Mladen Dolar writes, from the earliest days of mechanical speech the former was set up as the enactment of the promise of the latter. Just as the algorithms that preceded it reshaped the landscape of oil exploration, Auto-Tune itself set in motion changes in the recording industry that altered Cher’s position as a laborer within it. The regime of digital editing of which Autotune is a part removes the need for musicians and singers to convene in a recording booth to record together, instead miniaturizing the recording booth’s discrete parts on the screen. *Future Music* editor Daniel Griffiths has estimated that, as early as 2010, pitch correction was used in the vast majority of recorded music, about 99%.¹²⁹ As Owen Marshall glosses it, “Digital pitch correction, it seems, has become the rule, not the exception, so much so

¹²⁹ Mark Savage, “How commonplace is Auto-Tune?” BBC News, August 23rd, 2010.

that the accepted solution for too much pitch correction is *more pitch correction*.”¹³⁰

Autotune’s very basic spatial function—to nudge pitches that are too high or too low—thus produces a wide range of spatial outcomes, which extend beyond the lines it produces on a screen. One consequence of its proliferation has been to remove individual bodies from the site of music-making, and to implement a corrective regime whereby relationality takes place largely through representation—there is no more backing-up of backup singers, as in Cher’s heyday, but simply the manipulation of their individual sounds, often recorded separately. These shifts increasingly bear upon performance as well, as Auto-Tune is available not only to adjust sounds recorded in-studio via a plug-in for professional audio editing software but to adjust live performances as they happen via a “standalone, rack-mounted unit.” Auto-Tune increasingly guards against the vocal variance that live performance used to promise.¹³¹

Of an earlier project of visualizing the voice, the spectrogram, Lacan remarked in Seminar Two that, like psychoanalysis, “cybernetics also stems from a reaction of astonishment at rediscovering that this human language works almost by itself, seeming to outwit us.”¹³² A performance like Cher’s on “Believe” preserves the making-strange capacity of the voice. The unfortunate closeness she once bemoaned—her ability to sound like many kinds of people—comes to seem, at the close of two decades of Auto-

¹³⁰ “A Brief History of Auto-Tune,” *Sounding Out!*, April 21st, 2014.

¹³¹ In 2010, a very public breaking of this promise occurred on the British reality television show *The X Factor*, when its producers admitted to using Auto-Tune to improve the voices of contestants. The resulting uproar meant a counterpromise ensued: that they would never do it again.

¹³² *The Seminar of Jacques Lacan, Book II: The Ego in Freud’s Theory and in the Technique of Psychoanalysis, 1954–1955*, ed. Jacques-Alain Miller, trans. Sylvana Tomaselli (New York: Norton, 1991), 307. Also cited in Mills, “Deaf Jam.”

Tune, like a blessing. In a moment when voices are increasingly cleaned up, ‘Tuned up, and regulated, we crave their outwittings all the more.

It is little wonder, though, that the singer herself sometimes imagines a world in which the voice doesn’t matter. In 1990’s *Mermaids*, Cher plays a character named Mrs. Flax, who she enacted in her mother’s image:

The dresses were taken from old Polaroids my mother had from the sixties. The dresses work. Mrs. Flax doesn’t have to open her mouth too much – look at her and you get a quick sense of who she is.¹³³

With Mrs. Flax, Cher imagines a character who is read without having to “open her mouth too much.” The dresses do the work. The perils of swapping sonic judgment for visual judgment are evident. But based on Cher’s own history, I can see why this reprieve from vocality might appeal. Without a voice to hear, there are fewer imperfections to see. Perhaps Cher has lost the ability to love her voice; as Judith Butler writes, this kind of loss is the result of gender formation for all of us. “Is there not a longing to grieve,” she asks, “—and, equivalently, an inability to grieve.”¹³⁴

¹³³ Goodall, *Cher*.

¹³⁴ In *The Psychic Life of Power: Theories in Subjection* (Berkeley: University of California Press, 1997: 24), Butler writes at length of the melancholy of gender, asking: “Is there a loss that cannot be thought, cannot be owned or grieved, which forms the condition of possibility for the subject? Is this what Hegel called ‘the loss of the loss’...? Is there not a longing to grieve-and, equivalently, an inability to grieve-that which one never was able to love, a love that falls short of the ‘conditions of existence’? This is a loss not merely of the object or of some set of objects, but of love’s own possibility: the loss of the ability to love, the unfinished grieving for that which founds the subject.” Also cited in Love, *Feeling Backwards*, 119-20. (119-20)

This passage is equally reminiscent of Cher’s disavowal, in Chapter 1, of her own prior

II. Auto-Turning

In which: the turns of voices on vocal instruments, the exclusions of interfaces, can be seen as part of queer theory's long contemplation of turns and of lines, of the ways we turn away and the ways we fail to align.

One of the moments where queer theory is most explicitly vocal comes in its interrogation of Althusser's hailing voice: Hey you!¹³⁵

Judith Butler's account of interpellation turns on "turning around": do you turn when called by the police: do you recognize that "you" as yours, as outstretched in your direction?¹³⁶ For Sara Ahmed in *Queer Phenomenology*, this turn is a touchpoint for her approach, which makes turning, orientation, and direction central to subjectivity. For Ahmed, space "becomes a question of 'turning,' of directions taken, which not only allow things to appear, but also enable us to find our way through the world by situating ourselves in relation to such things."¹³⁷ Turns turn us *into* particular subjects:

If such turns are repeated over time, then bodies acquire the shape of such direction. It is not, then, that bodies simply have a direction, or that they follow directions, in moving this way or that. Rather, in moving this way, rather than that, and moving in this way again and again, the surface of bodies in turn acquire their shape.¹³⁸

This last sentence snags on "the surface of bodies," which seems an artificial cropping;

grief about Chaz: "there is no loss," she says (fn94).

¹³⁵ *Lenin and Philosophy and Other Essays* (New York: Monthly Review Press, 1972), 174.

¹³⁶ *The Psychic Life of Power*, 128-9

¹³⁷ *Queer Phenomenology*, Durham: Duke University Press, 2006: 6.

¹³⁸ *Ibid.*, 116.

Ahmed restitches the snag in her subsequent *Willful Subjects*, which makes vocality's emanations, not just surface or skin, part of the fabric of a turning subjectivity. But where her text is concerned with voices, voices are not only things we turn *toward*, or that turn us as if in a lathe, but sites of willfulness that get turned away *from*.

If a willfulness archive is an archive of incompleteness, no wonder it is noisy: it includes the sound of voices raised in protest against the injustice of commands. Voices can be arms, raised in the hope of disturbing the ground.¹³⁹

In one of this thesis' epigraphs, Ahmed parses the cultural politics of hearing such voices:

"We can hear what is at stake in how women who speak out are heard. [...] You know that other voices can be saying the same thing over and over again, even saying those things loudly, and not be heard as strident."¹⁴⁰ Combining Ahmed's approach in *Queer Phenomenology* to her approach in *Willful Subjects*—combining the turnings of subjecthood with voices that get turned away from—offers a spatial approach to vocality. Voices, which may emanate into space, require spatial management, which can be conceived of as a series of turns. By turning away from certain kinds of voices, we tune our environments to preferred frequencies. Yet a funny thing about audition is that turning our back to something or someone—as those with whom Cher shared a soundbooth do to her, or as Cher does to Rosie, to whom she sounds "unfortunately close"—heightens sensitivity to it; we hear well what's just behind us.

¹³⁹ Sara Ahmed, *Willful Subjects*, Durham: Duke University Press, 2014: 141.

¹⁴⁰ *Ibid.*, 153-4.

III. (Auto-)Turning

In which: more women sound like men: the female operators of the Voder and Mamie Eisenhower through the Vocoder; men's sonic tendrils are in feet, women's in inches; spectrographs fail (women, children); voiceprinting fails (for identification, though not indemnification), visible speech is "notoriously hard to read;" and queer sounds just don't line up.

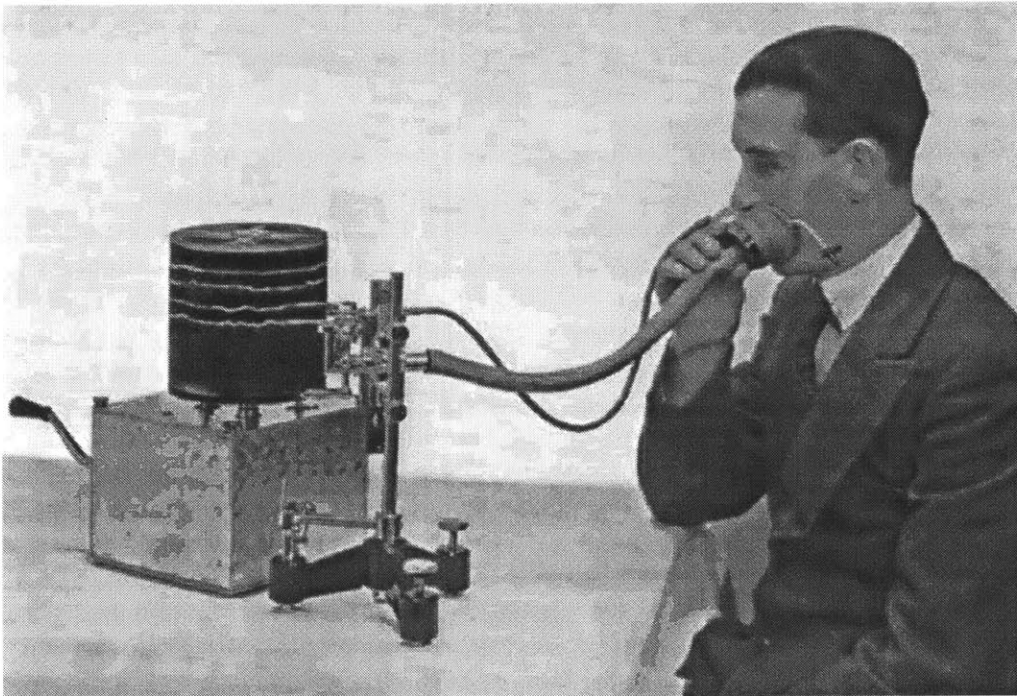
One of the moments where the voice is most inescapably queer comes in its aggregated turnings on the surface of a sound spectrogram, like our earlier march of /da/s.

In the 19th century, thinkers devoted themselves to the project of "visible speech," or of turning the voice into a clear representation of itself. This was part of a broader project of mechanical objectivity, or of achieving more perfect perception with the aid of scientific instruments.¹⁴¹ To do this in the case of the voice required an understanding of how the ear hears it. In 1843, Georg Ohm posited that the ear performed Fourier or harmonic analysis to distinguish the various frequency components within a complex sound wave. In the equation he devised, Ohm's Law, an individual sound was separated into many different sine waves. Ohm wrote against the *telephone theory of hearing*, which posited the ear as a microphone that transmits whole sounds intact to the brain; instead, he paved the way for the *place theory of hearing*, which posited that different pitches stimulate different hairs in different parts of the ear. And although some have turned away from Ohm's Law, questioning the utility of describing voices in this way when they are never heard absent other sounds or social cues, the basic figures of sines, waves and turns have continued to illustrate vocality in many contexts. Between the advent of Ohm's Law in 1843 and the advent of the spectrograph in 1945, on which

¹⁴¹ Peter Galison and Lorraine Daston, *Objectivity*, New York: Zone Books, 2007.

contemporary efforts to visualize speech are still based, other efforts to write sound, from the phonograph to the kymograph (Figure 19) arose.

My interest here is not in the granular advance of each of these developments, chronicled well elsewhere, but in how they were described—and before that, imagined. In what follows, I want to suggest some ways in which gender informed the development of these apparatuses, the experiments that were conducted with them, and the organization of people in space. I attend in particular to moments of failure in the histories of technologies, failures which are bound up with their gendered forms.



(Figure 19: E. W. Scripture, “Registration of Speech Sounds,” *Journal of the Acoustical Society of America* 7 (1935): 140, cited in Mills, “Deaf Jam.”)

Our first stop is the words of a 19th century physicist, Hermann von Helmholtz, who illustrated Ohm’s Law and developed the place theory of hearing by way of a concertgoing tableau:

From the mouths of the male singers proceed waves of six to twelve feet in length; from the lips of the female singers dart shorter waves, from eighteen to thirty-six inches long. The rustling of silken skirts excites little curls in the air, each instrument in the orchestra emits its peculiar waves, and all these systems expand spherically from their respective centers, dart through one another, are reflected from the walls of the room and thus rush backwards and forwards. . . . [The ear] analyzes the interdigitation of the waves . . . separates the several tones which compose it, and distinguishes the voices of men and women — even of individuals — the peculiar qualities of tone given out by each instrument, the rustling of the dresses, the footfalls of the walkers, and so on.¹⁴²

Helmholtz's use of feet as a unit of measurement for the men and inches for the women suggests a difference in kind between male voices and female ones, or at the very least a great difference in degree. These numeric intervals of gender—waves of six to twelve feet in length for the men; waves of eighteen to thirty-six inches—were not based on observation, but would become characteristic of scientific analyses of the voice.

From 1908 onward, for example, an early voice analysis tool, the phonodeik, photographed sound waves and analyzed them via a dubious process: an early user, Dayton Clarence Miller, described how a sound was “analyzed into its harmonic components,” after which “corrections are applied, percentage intensities for the several partials are computed, and the results are diagrammed.”¹⁴³ In a set of experiments Miller published in 1916, the author was concerned with establishing the variation in pitch between preordained musical categories (bass, tenor, contralto and so on) that itself taught the practice of particular pitches. In the study replicated in Figure 20, Miller took a speaker from each of these gendered categories, had them speak the word “father,”

¹⁴² “On the Physiological Causes of Harmony in Music.” In *Science and Culture: Popular and Philosophical Essays*, ed. David Cahan (Chicago: University of Chicago Press, 1995), 46-75.

¹⁴³ *The Science of Musical Sounds* (New York: Macmillan, 1916), 219.

applied his “corrections,” and judged their “energy” based on percentages of each other.

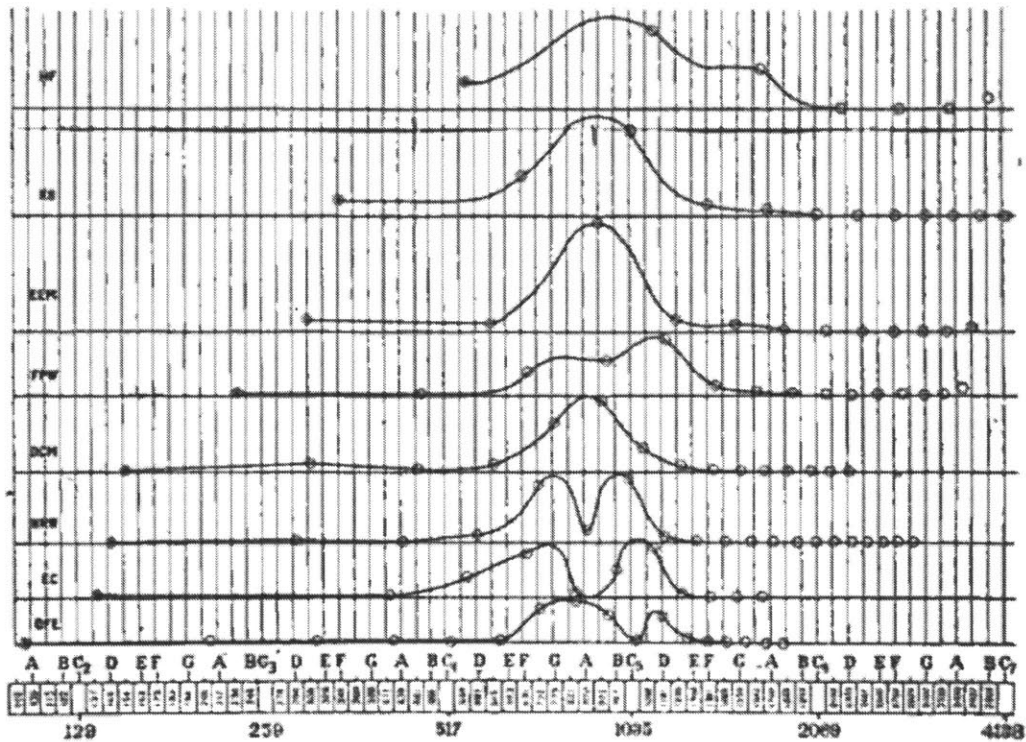


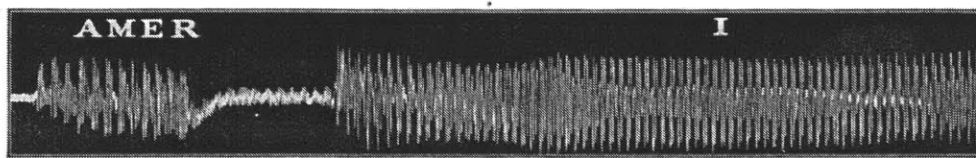
FIG. 163. Distribution of energy among the several partials of the vowel father, as intoned by eight different voices.

(Figure 20, a pitch-comparison experiment using the phonodeik, from Dayton Clarence Miller, *The Science of Musical Sounds*, New York: Macmillan, 1916.)

The successor to the phonodeik was the oscillograph, at which a *Popular Science* writer marveled in 1923 (Figure 21.) But the same granularity that the writer admired—“Although the utterance of the word [America] required less than a second, the reproduction of its vibrations is more than three feet long”—made it an unwieldy tool for speech analysis in practice.¹⁴⁴ In 1945, the instrument on which speech analysis is still based, the sound spectrograph, was finally conceived at Bell Labs. The spectrograph performs Fourier analyses on brief snippets of speech and displays them on a screen as

¹⁴⁴ R. W. King, “The Great American Voice,” *Popular Science* 103, no. 5 (1923): 68.

spectrograms (the original version being purely electromagnetic.) In the language of the spectrograph, Helmholtz's vocal measurements of feet and inches and Miller's energy percentages were swapped for axes of time and hertz. Male voices were said to be between 65 and 260 Hertz and female between 100 to 525, though mostly male voices were chosen for analysis and women chosen to learn to read the displays (Figure 22).¹⁴⁵



A record (reduced) of the word "America," made by the oscillograph. Although the utterance of the word required less than a second, the reproduction of its vibrations is more than three feet long. Note how the vibrations in the syllables merge.

(Figure 21: R.W. King, "The Great American Voice," *Popular Science* 103, no. 5 (1923): 68.)



(Figure 22: The first sound spectrogram training group at Bell Labs, from Potter et al., *Visible Speech*, 1947.)

¹⁴⁵ These ranges would later be reproduced in robotics. AO Roberts writes in *Sounding Out!* ("Echo and the Chorus of Female Machines," March 2nd, 2015):

But in robotics gender is charted down to actual wavelength, actively policed around 100-150 HZ (male) and 200-250 HZ (female). Now prevalent in entertainment, navigation, law enforcement, surveillance, security, and communications, speech synthesis and recognition hold up an acoustic mirror to the dominant cultures from which they materialize.

But even as sound spectrography and other projects of visible speech worked to establish ranges of gendered pitch, they drew power from the transgression of the same gendered boundary of vocality they worked to construct. Two other technologies produced by Bell Labs in the same time period as the spectrograph, the Voder and Vocoder (which also shared an inventor, Homer Dudley) illustrate this well. Long in a line of speaking machines, the Voder was designed to produce artificial speech.¹⁴⁶ First displayed at the 1939 World's Fair in San Francisco, the cover of an issue of *Science News Letter* devoted to the technology (Figure 23) bears simply the gender-neutral caption "It talks." This caption belies the gendered nature of the interior copy and accompanying photograph (Figure 24): the advertisement's prominent caption—"The young lady striking keys is creating a man-like voice"—posits the Voder as a site of doing gender trouble. Its second line—"This new synthetic orator will 'lecture' with his 'electrical accent' at the New York and San Francisco world fairs"—marries the first's skepticism of a "man-like" woman with the notion of a "man-like" machine, which can only 'lecture,' not simply lecture. Of course, this discrepancy drew on prior design and labor choices: that a woman would operate the Voder; that its voice would be a man's.¹⁴⁷

¹⁴⁶ For a history of speaking machines and the way in which artificial speech has often been presented as a sonic predecessor to artificial intelligence, see Dolar, *A Voice and Nothing More*, 2006, esp. 1-9.

¹⁴⁷ "Now a Machine That Talks With the Voice of Man," *Science News Letter*, January 14, 1939. <http://scienceservice.si.edu/newsletters/39019p.htm>.



(Figures 23 & 24: “Now a Machine That Talks With the Voice of Man,” *Science News Letter*, January 14, 1939. <http://scienceservice.si.edu/newsletters/39019p.htm>.)

At the same 1939 World’s Fairs, Bell Labs displayed the Vocoder (Voice Operated reCOrDER), which scrambled speech where the Voder reconstituted it. Unlike the Voder, the Vocoder took up an entire wall. Like the Voder, the Vocoder was played exclusively by female technicians. As with the Voder, the speech of these technicians was not seen to be suited to mingle with the speech of the machine: the female voice was said to be out of the Vocoder’s reach, too high for its hearing. At its debut in 1939, only men were chosen to have their voices scrambled, made mechanical. For its part, the Voder was designed only to hear voices between 100 and 150 Hertz—the voices of men—so it came as a surprise when President Eisenhower called his wife via Voder from North Africa, and she could be heard just fine, urging him to return home. Instead of occasioning a reconsideration of the technologists’ assumption that women were incapable of being heard by the machine because their voices were universally too high,

the moment became, as AO Roberts puts it, a “punchline,” or a “derisive footnote:” namely, the first lady was heard because she had a voice like a man’s.¹⁴⁸ Rather than being cause to challenge the rigid sonic definitions of gender, then, the Vocoder offered evidence of Mamie’s “spoiled vocality,” to adapt a turn of phrase from Erving Goffman.¹⁴⁹

Over time, the spectrograph seemed to cast doubt on the gendered components of its own setup. The more common the spectrograph and its individual spectrograms became, the more they highlighted the way all voices are spoiled. If many early sound technologies contained what Mara Mills calls the “assistive pretext” of correcting deaf speech, through a kind of “auto-tuning” involving the comparison of their own visualized utterances with so-called normal speakers, the spectrograph turned this pretext on its head.¹⁵⁰ Where early literature about the spectrogram lingered on the voices of the deaf as “unpleasant sounding and difficult to understand,” the spectrogram’s interface rendered all voices difficult to understand.¹⁵¹ The assistive technology, in short, became grounds

¹⁴⁸ “Echo and the Chorus of Female Machines.”

¹⁴⁹ *Stigma: Notes on the Management of Spoiled Identity* (Englewood Cliffs, NJ: Prentice Hall, 1963), 128.

¹⁵⁰ “Deaf Jam,” 39.

¹⁵¹ This comes from Ralph Potter, who was director of sound transmission research at Bell Labs. When Potter introduced the sound spectrograph to readers of *Bell Laboratories Record*, he described it as a translator and tutor for deaf people as well as a tool for engineers:

A person totally deaf, particularly if he has been so since birth, can be taught to speak only with the greatest patience, and at best his speech is unpleasant sounding and difficult to understand. Being unable to hear his own or any other voice, he has no criterion to guide his efforts, although speech training for those without hearing is of most immediate concern, it is likely that visible speech may ultimately enable the deaf to read the speech

for its users to admit they in turn needed assistance.

Today, in acoustics textbooks, it is common to find statements like “Spectrograms are formidably difficult to read”¹⁵² and “you can easily misinterpret sound spectrograms. Spectrograms are always difficult to interpret, but you can make absurd errors if you do not know what the machine is doing.”¹⁵³ Increasingly they write of *spectrogram failure*.

In a section of *Phonetics for Dummies*, William Katz writes:

Tutorials on spectrogram reading generally try to make things easy by presenting clear examples from male speakers and by using citation forms of speech. There’s nothing wrong with that! Until, of course, you must analyze your first case of a child or female with a high fundamental frequency. At this point, you may see your first case of spectrogram failure, where formants simply won’t appear, as expected.¹⁵⁴

In the figure that accompanies Katz’s analysis (Figure 25), a man, woman, and child are seen speaking the word “heed” on a spectrogram. In the child’s inability to heed the rules of the machine with her high pitch, she produces “spectrograph failure.” You can see the imperfections—this time in the machine itself. In this way, a link is forged between the spectrograph’s notorious difficulties for its reader and its gendered display form, a setup that privileges the display of lower pitches over higher ones.

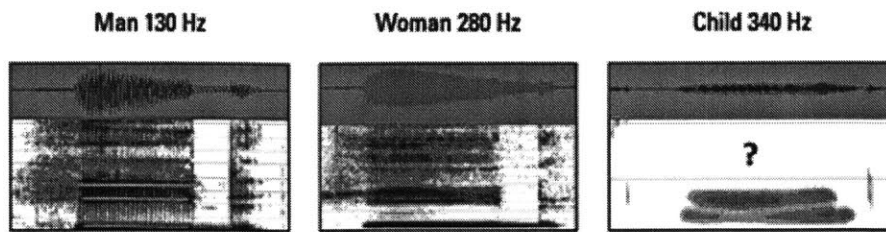
of others, and particularly to use the telephone. (“Visible Speech.” *Bell Laboratories Record* 24 (1946): 7; cited in Mills 39-40.)

¹⁵² Michael Studdert-Kennedy. “Some Developments in Research on Language Behavior,” in *Behavioral and Social Science: 50 Years of Discovery*, ed. Neil J. Smelser and Dean R. Gerstein (Washington, D.C.: The National Academies Press, 1986), 220.

¹⁵³ Philip Lieberman and Sheila E. Blumstein, *Speech Physiology, Speech Perception, and Acoustic Phonetics*, Cambridge: Cambridge University Press, 1988: 59.

¹⁵⁴ William Katz, *Phonetics for Dummies* (Malden, MA: John Wiley & Sons, Inc., 2013), 213.

Figure 13-19:
The spectrograms of /hid/ by a man, woman, and child with F_0 s indicated.



(Figure 25: William Katz, *Phonetics for Dummies* (Malden, MA: John Wiley & Sons, Inc., 2013), 213.)

In the years that followed, the spectrograph was put to work on a project of voiceprinting, or the identification of individuals via their voices. With substantial military investment (as with most preceding sound technologies), forensic experts set out to develop a system of voice identification as reliable as fingerprints. As Manfred Schroeder writes:

The Acoustical Society of America formed a committee of speech experts to look into these claims. The main conclusions of the committee's report emphasized that a suspect's voice could sometimes be *excluded* with certainty on the basis of incompatible spectral data. In other words, the suspect, given his or her vocal apparatus, could have never produced all the features of the given utterance.¹⁵⁵

Voiceprinting, then, could not be used for identification, but sometimes it could be used for indemnification. The failures of the spectrograph in identifying specific individuals via voiceprinting and in identifying many individuals (women, children) via standard spectrography thus cast doubt on the very premise of "sounding like oneself" that Cher pursued—even as it too operated according to the differential logic of the signifier, by

¹⁵⁵ Manfred Schroeder, *Computer Speech: Recognition, Compression, Synthesis* (Medford, MA: Springer Science and Business Media, 2013), 48.

which Cher winnowed down what she does sound like by way of what she does not want to sound like.

In a famous essay on opera, Roland Barthes described “the grain of the voice,” those qualities of language that rub up against the literal meanings of words, that tear “the tissue of cultural values (the substance of acknowledged tastes, of fashions, or critical discourse), what is directly articulated around the ideological alibis of a period.”¹⁵⁶ Like Barthes’ “grain of the voice,” individual spectrograms are unruly; indeed the striations of the spectrograph look a bit like wood grain or smog or wisps or a stain. The complexity of these representations in comparison to a simple waveform or a line sets up the spectrogram contra the line. In that way, the difficulties presented by the spectrograph’s blurforms are akin to Michael Warner’s critique of straightness as a project of clarity and *alignment*:

The received wisdom in straight culture is that all of its different norms line up, that one is synonymous with the others. If you are born with male genitalia, the logic goes, you will behave in masculine ways, desire women, desire feminine women, desire them exclusively, have sex in what are thought to be normally active and insertive ways and within officially sanctioned contexts, think of yourself as heterosexual, identify with other heterosexuals no matter how tolerant you might wish to be, and never change any part of this package from childhood to senescence. [...] If you deviate at any point from this program, you do so at your own cost. And one of the things straight culture hates most is a sign that the different parts of the package might be recombined in an infinite number of ways. But experience shows that this is just what tends to happen. If heterosexuality requires the entire sequence, then it is very fragile.”¹⁵⁷

¹⁵⁶ Roland Barthes, “The Grain of the Voice,” in *The Responsibility of Forms: Critical Essays on Music, Art, and Representation* trans. Richard Howard (New York: Hill and Wang, 1985).

¹⁵⁷ *The Trouble With Normal: Sex, Politics, and the Ethics of Queer Life* (Cambridge, MA: Harvard University Press, 2000), 37-38.

Warner's description of the project of heterosexuality as a project that "requires the entire sequence" (contra queerness' project of recombination) is an elegant formal description of how straightness turns away from anything that might cause it to turn from its path. (The requirement of sequence recalls as well Chapter One's questions about promises and the parceling-out of the future.) In one common phrasing, for something to turn is to for it spoil. What makes the voice spoil, in the view Warner critiques, is for it to turn away from alignment. But whether we turn toward or away from a voice, as Sara Ahmed describes, we are still turned by it. Straightness requires its own genre of turning; turning-away is what enables it to remain straight.

Along the lines of Warner's observation, the spectrograph conveyed that people simply did not line up with themselves. (People can be *made* to line up, as Auto-Tune would later demonstrate.) The spectrograph was construed as a straightening device, one deaf subjects could turn to for help straightening out their voices, or that the government (via voiceprinting) could use to track those who needed straightening out. Designed with such rigid understandings of gender and vocality, however, meant that it could not help but defy them; many times, it resulted in "spectrogram failure." This, ultimately, is the spectrograph's lesson: There are many ways we do not align. Mamie did not align with how the Voder expected her to sound, nor Cher on "Ringo, I Love You," nor did the unheeding child align with the spectrogram. Its spatiotemporal representation of the blur of the voice turns us toward our own twists and turns, our own nonalignment when measured by the yardstick of straightness. Like people, "Spectrograms are formidably difficult to read."

IV. (Auto-)Tuning Up

In which: the spectrograph helps Crystal tune up; emotion is the stakes of being in tune; a woman sounding like a man makes people come too close, or jump back.

This section concerns Crystal, a transgender woman I met while conducting the ethnography that preceded this project. Unlike Chaz, she cannot take hormones to feminize her voice; instead, she takes time with a spectrograph. Here is a spectrogram Crystal took of her own voice, speaking to mine, using a spectrograph program called GRAM. It purports to write an account of what happens when Crystal speaks both in the masculine range she practiced most of her life and in the feminine range she is currently seeking to break into.¹⁵⁸

GRAM - Sound Spectrum analyzer
Input analyzed: conversational speech between interviewer and subject.
Only subject's voice is shown.



Red Box denotes male speech pattern.
Green Box denotes female speech pattern.

Note how obvious the pitch stays flat with non-emotional male speech, and flows in waves with feminine speech. Also, the male tone was well below the fem range, where the feminine flexes up and down through the suggested range.

(Figure 26: A spectrogram from Crystal.)

¹⁵⁸ Soon after our conversation, an email from Crystal popped up in my inbox: “It was a pleasure talking to you tonight. Attached to this email please find an image file containing a screen ‘freeze’ of the GRAM Spectrum Analyzer program I was talking about. I have annotated the image with detail for your review.” I was able, then, to see for myself what Crystal saw on her screen while she was speaking to me.

Without Crystal's notes, I could not read this spectrogram; spectrograms are notoriously difficult to read. But Crystal has learned to read them, and she inscribed this screenshot for me, noting that the "brightest base thick lines denote average pitch" (which I later learned from my reading is also called fundamental frequency), noting the amplitude, and indicating a narrow feminine range of 175 to 218 Hz. She also distinguishes between the "flat...unemotional male speech," and a feminine speech that "flows in waves."

Crystal fiddles with her own pitch like a sound engineer who fiddles with pitch via Auto-Tune. The similarity is more than superficial. If Crystal explains her project as one of shifting unemotional male flatness toward a femininity that flows in waves, the engineers of Auto-Tune use much the same language to describe Auto-Tune's project. In the Auto-Tune patent language, they write:

Voices or instruments are out of tune when their pitch is not sufficiently close to standard pitches expected by the listener, given the harmonic fabric and genre of the ensemble. When voices or instruments are out of tune, the emotional qualities of the performance are lost. Correcting intonation, that is, measuring the actual pitch of a note and changing the measured pitch to a standard, solves this problem and restores the performance.¹⁵⁹

In their concern with the loss of emotion resulting from out-of-tune voices or instruments, the Auto-Tune engineers mirror Crystal's concern with the emotion that might be lost should she speak in a flat male tone. The difference is that where the sound engineer can adjust pitch on his screen and be done with it—in fact, since "the solution for too much pitch correction is more pitch correction," if he makes an error he doesn't need to

¹⁵⁹ Hildebrand, Harold A. *US Patent 5973252A*. Washington, DC: U.S. <http://www.google.ch/patents/US5973252>. I am indebted to Owen Marshall for pointing this out in his "Brief History of Auto-Tune" on *Sounding Out!*

summon his singer back into the studio—for Crystal pitch adjustment is a deeply embodied process.

That Crystal thinks of her voice as out of tune, in line with the Auto-Tune patent language, is made especially clear by a process she calls “tuning up.” In order to tune up, Crystal adapted an exercise she learned from a speech therapy session via Skype.¹⁶⁰ She repeats a sequence of words, each addressing a facet of her voice, until she feels confident in their manifestation, for example:

Pitch-pitch-pitch-tone-tone-articulation-articulation-tone-tone-articulation-articulation-articulation.¹⁶¹

Each word has a specific sound: with articulation, each syllable is enunciated clearly and distinctly, while pitch targets a feminine sonic frequency. The rhythm of each iteration of this sequence varies depending on what aspect of her voice she feels needs adjustment at that point in time; on this occasion, it was her articulation. Crystal credits her vocal change to this process, which draws both on the affordances of speech therapy and of the spectrograph:

When I began researching the information related to changing my voice, I found the program buried in various Internet resources. Various documents gave me various tips on what to look for and what frequencies to keep an eye on. I started using it right away, even though I didn't necessarily know how to use it. It did show me quickly, though, that the “Mickey Mouse” voice wasn't appropriate, for example, as the graph showed very clearly that the pitches did not fall within the recommended

¹⁶⁰ Crystal's speech therapist is in fact the sister of her plastic surgeon, which speaks both to the importance of personal connections in finding trusted and sympathetic practitioners and to the limited number of practitioners serving trans people in general.

¹⁶¹ Crystal, interview by author, November 4th, 2011.

ranges.¹⁶²

A short while after we started talking, Crystal decided to turn on the program: “I’m curious to see how I am doing with you, since I haven’t looked at the program in a few days.”¹⁶³ She noted, though, that she had been self-monitoring already:

This whole time we’ve been talking, I’ve noticed all of these little things going wrong with my voice that you probably didn’t. I’ve gotten really good at identifying the flaws in my voice (ibid.).

Like Cher, Crystal can see all the imperfections in her voice.

She can see as well the future that might result from them. Crystal worries about being “clocked,” or having her identity revealed by an unfriendly bystander, and describes the possible consequences:

I often play pool at a local bar. I became very good at pool when I was a young man, and I don’t want to give it up now that I am a woman. But none of the men I play pool with know that I am trans, and if they found out I would definitely be yelled at, threatened, perhaps harmed [Crystal articulates the end of this sentence slowly, considering each possible consequence in turn]. It is definitely something I worry about.¹⁶⁴

Echoing trans sociologist Raewyn Connell’s writing on “unruly bodies,” Crystal worries that the unruliness of her voice will reveal her identity, especially in a cough or a laugh, the sound of which is harder for her to control.¹⁶⁵ She worries about many other things as well: one of the first things she does during our conversation is to pull back her hair and show me her receding hairline, which she hopes to fix through surgery. At present, if

¹⁶² Ibid.

¹⁶³ Ibid.

¹⁶⁴ Ibid.

¹⁶⁵ Connell, R.W, *Gender* (Cambridge: Polity, 2002), 47-8.

Crystal runs her hands through her hair or gets caught in the wind, her receding hairline will be visible, potentially jeopardizing her femininity. If she stops electrolysis, her beard will return in patches. So much of her bodily identity is marked by precarity.

Crystal's fear that her voice could lead others to descend on her, or to back away from her, is echoed in other trans memoirs.¹⁶⁶ Yet there are also ways in which she fears the same of *altering* her voice. Crystal uses her "old voice," her flat unemotional masculine tones, to speak to her partner and her child, who have both struggled with her transition.¹⁶⁷ On the one hand, she says of her old self: "That person no longer exists. I

¹⁶⁶ Deirdre McCloskey's *Crossing* is a useful example. McCloskey navigates transition alert to the fear of physical violence, on the one hand, and allegations that any body modifications she might engage in to prevent violence themselves constitute violence, on the other. McCloskey spends about a hundred thousand dollars on surgeries, which her mother calls "vain," and none of which are covered by insurance or tax-deductible: "[Blue Cross and the IRS take a] dim view of cosmetic surgery to make one passable and therefore less likely to be murdered; also of voice surgery for the same; also of fixing the glitches from all of these" (McCloskey 2001: 123). Yet her still-male-sounding voice affords her a certain power:

In the late fall of her Dutch year, she is chased by little boys in the dark at a tram stop close to Erasmus. Terror, even in law-abiding Holland. They want her money. She is afraid to hurt them but afraid they will hurt her. Later she learns that such boys are routinely armed with knives. She speaks in English to one: "Go away." The boy shouts, astonished, to his confederates, 'Zij is een man!' 'She's a man!' Real trouble, but they give up as she crosses the highway and gestures threateningly toward the one boy who follows. Perhaps they say to themselves, "Uh-oh, this isn't a defenseless woman." (166)

Femininity is what makes the boys approach; the masculinity of her voice makes them turn away. McCloskey recognizes that this is only a privilege against the dismal backdrop of violence writ large; she writes, the things "that will make a gender crosser passable will also make her less likely to be scorned or raped or killed—at any rate at no more than the shocking rates for genetic women." (163)

¹⁶⁷ This phenomenon of polyphony or split sonic selfhood is one I wrote about extensively in my prior project; interestingly, the telephone was often cited as a site of such switching.

want to forget about that.”¹⁶⁸ On the other, she conjures that old self daily to family members. Like Cher with Chaz’s voice, her family members make a claim on that voice. Unlike with Chaz, they succeed. To continue to speak as her old self, as Chaz cannot, comprises a genre of care work Crystal sometimes wishes she did not have to perform. It is *emotional* work, as with Auto-Tune; it is a balancing act between her own becoming and the coming-around of others. “The sooner I could forget how to use my birth voice, the happier I’d be,” she told me. “If I could wake up every morning and not have to tune up my voice, I would be that much happier,” she told me. I asked her how she’d feel if she could change her voice overnight, and she told me:

I’d be ecstatic. Sure, the others that knew that old part of my being would be that more saddened by the sudden end, but they would have to adapt as I did.¹⁶⁹

Until then, Crystal “tunes up,” plugging the cracks in her voice as insurance against threats from unknowing actors. Until then, Crystal breaks her voice open, cultivating the new while reenacting the old, protecting against rejection from actors who know her well. Saying: See, I have not called for violence, my voice does not assume the shape of that call. In the turns on the screen, you can see: I have not called for you to turn on me or turn against me.

¹⁶⁸ Interview, 11/4/11.

¹⁶⁹ Ibid.

Interlude: Pitches

Some definitions of the word “pitch,” courtesy of the Oxford English Dictionary, with my annotations:

pitch n. 3. Any of various similar dark, viscous substances of mineral origin; intensely black or dark

pitch mop *n. Obs.* a mop used to seal the sides and other parts of a ship with pitch

pitch-speeched *adj. Obs. nonce-wd.* using foul or offensive speech, foul-mouthed.

So: Pitch secures a ship against aberrant waves. Pitch can be used to fill the cracks in something—in a voice, especially in a voice seen as foul.

pitch v. 4. trans. a. To put in a fixed or definite place or position; to situate, to place; to set, fix, plant; to erect or set up (a building, pillar, etc.).

pitch n. a. *U.S. slang.* A proposed or recommended way of proceeding; a plan, an operation, an enterprise; a situation, a set of circumstances.

pitch v. c. (refl.). To place oneself, take up a position.

pitch b. The area of play

pitch n. 7 trans fig b. To set, fix, or plant (one's faith, hope, thoughts, sight, etc.) upon some object.

pitch n. 15. fig. A position taken up and maintained; a fixed opinion or resolution. *Obs.rare.*

So: A pitch is a position, either an encampment occupied in the present or a future we turn our (faith, hope, thoughts, sight—voice) toward. It defines the area of play and in so doing it becomes a plan. It is a way of proceeding. It is something we do toward an end; we turn toward it and are turned by it.

pitch c. Chiefly *N. Amer.* The extreme point of a cape or headland, where it projects furthest into the sea; (also) the tip of land jutting furthest into the fork of a river.

pitch v. 7. a. An act of plunging head foremost

pitch 9. b. orig. slang. Speech or other behaviour designed to persuade, influence, or cajole, esp. in order to sell goods or promote an idea; patter, spiel; an instance of this.

pitch v. 19 b. A projecting point of some part of the body, *esp.* that of the shoulder. *Obs.*

pitch 13. trans. a. To cast, throw, or fling forward

So: A pitch is a projectile or protrusion, an act of plunging, the coming-out of a voice. It is something we throw out, without knowing whether we'll get anything back. Speech is a sport some spoil with their spoiled voices. It is the edge of us.

pitch **b. to queer the pitch**: (originally) to interfere with or spoil the business of a street vendor or performer; (later more generally) to interfere with or spoil the business in hand

So: If pitch is a cure for a spoiled voice, it might also be the thing that needs spoiling, or queering.

pitch 25. a. The quality of a sound, esp. one produced by a musical instrument or voice, which is governed by the frequency of the vibrations producing it, and which determines its highness or lowness of tone (a rapid vibration corresponding to a high tone); the degree of highness or lowness of tone.

This is only part of it. Like how pitch is only part of the gendered voice, which also comes down to timbre, resonance, co-articulation, and the shape formants take.

So: The voice can come to all these things. Like mouths, answering machines, Auto-Tune screens, spectrographs: The voice can come from all these things.

Precarity/Hilarity/Hysteria: Closing Notes

When we left Crystal, she was feeling torn between the two major waveforms of her voice, the flat unemotional masculine voice and the female voice that flows in waves. But lest you think Crystal spends all her time breaking in that female voice, or feeling a bit broken-up about the persistence of the male one, I want to tell you something else about her voice. For all the vocal mourning readers of this document have had to relive—vocal mourning which goes back to the earliest days of sound technologies like the phonograph; mourning which is exacerbated by the promise contained within the answering machine; mourning which takes the voice as synecdoche for the self, for which the voice is readied by all kinds of regulation in space and via interfaces of visible speech—there are other, livelier, parts of the voice. I want to briefly bask in them here.

Here is Crystal's favorite thing to do at parties:

It's a great party trick—I'll be with someone I know and someone I don't know and I say [to the person she knows], "Do you really think it's okay to tell them?" (joking voice) and if they say, "yes, yes, you can tell them," I say [switches to a deep, masculine voice] "I used to be a man." [switches back to a feminine voice] The look on their face...[Crystal laughs]

In the ritual of asking for permission, in checking if the coast is clear, Crystal gestures at the real role precarity plays in her life. She has built friendships around precarity: during this conversation, she was preparing to host another woman who would be undergoing the same surgery Crystal herself hoped to get, a surgery which would change her hairline such that every time the wind blew her hair back others couldn't see that it was receding in classic male-pattern baldness (or not so classic: with her flowing hair, she was hardly the condition's typical presentation; that flowing hair was both instrument and occasion for her concealment.) Here she uses her voice to break things—to break concealment—

up a bit. And then she laughs.

Alongside the stories about vocal loss and anxiety I collected, which form a kind of foundation, or subfloor, for my explorations here, I also collected the occasional moment of great hilarity. Like Crystal's party trick, many of my interviewees reveled in doing gender trouble, like Maddie, who I met in the country's only transgender-specific archive in Texas. Her dark hair framing her face, she showed me a picture from just a year prior, in which I could barely recognize her due to her full beard. She told me, in her feminine voice, about the recent occasion on which she ran out of her hormone prescription over the weekend; realizing her mother took the same hormone for menopause, she asked her to share—until she realized she would have needed 60 of her mother's pills to equal her own dose. She informed me, matter-of-factly, of her impending infertility due to such hormonal infusions, and confided that, not to worry, she had frozen her sperm for the future. When I mentioned my interest in the voice, her eyes lit up: "Sometimes, I like to get all femmed up—you know, wear a corset or something—and go to karaoke." And then, with a deadpan expression on her face, this woman in front of me broke out into song. In a gravelly voice, she offered a pitch-perfect impression of Louis Armstrong:

*I see trees of green—red roses too
I see 'em bloom—for me and for you
And I think to myself—what a wonderful world*

And then she began to laugh.

These moments of laughter, two of many, came back to me while I read a particular passage in Chaz Bono's *Family Outing*—an interview with Cher. Cher reflects on a night spent with her other son, Elijah Blue Allman, Chaz's half-brother:

The other night was one of the most hysterical nights. Elijah was going out, and he wanted me to put makeup on him, and I kept thinking, "What

is wrong with this picture?” But we just have to accept our children as individuals, and we have to accept what their wishes are and who they are in their journey.¹⁷⁰

Easier said than done, of course, since this moment came over a decade before Chaz’s transition, during which time accepting Chaz’s wishes and who he is in his journey is one way of phrasing Cher’s difficulties. So if to read this passage is sobering, in its exposure of the gap between good intentions and real misapprehensions, there is something else striking about it. Cher describes herself as hysterical.

“Hysterical,” of course, is the same way Cher describes herself listening to Chastity’s waning voice on the answering machine. “I was hysterical one day...” she begins the passage that began this thesis. In both cases of hysteria, Cher is undone by her child, and she is undone because of gender. The erstwhile syndrome of the wandering womb becomes instead, in Cher’s parlance, a response to the fruit of that womb’s wandering, a desire for its fixity. In turning Cher’s first (but chronologically second) account of hysteria on its head, Cher’s second (but chronologically first) account of hysteria shows how welcome that hysteria, that undoing, can be. In her undoing she recalls a famous passage on that subject:

Let’s face it. We’re undone by each other. And if we’re not, we’re missing something. If this seems so clearly the case with grief, it is only because it was already the case with desire. One does not always stay intact. It may be that one wants to, or does, but it may also be that despite one’s best efforts, one is undone, in the face of the other, by the touch, by the scent, by the feel, by the prospect of the touch, by the memory of the feel.¹⁷¹

To that list, I would add, or already have: by the voice, by the memory of the voice.

¹⁷⁰ *Family Outing*, 230.

¹⁷¹ Judith Butler, *Undoing Gender*, New York: Routledge, 2004: 23.

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