Reverb: Notes

No place of publication is given for university press books, and no publisher other than a university press is given for works published before 1965. The original year of publication is provided in [brackets] where chronology is vital to arguments in the text. Many of the published sources I cite have since become available online; I furnish URLs only for those sources available exclusively online and current as of January 31, 2009. Spellings have been silently modernized except in titles and in poetry; English spellings are retained in quotations from British Commonwealth sources. Since there is no bibliography, I have eased the task of assiduous readers by indicating with (→ n.) the endnote number of the original full citation for subsequent short-titled references more than seven notes distant.

Acad
Academy, Académie

Amer
America, American

Anthrop
Anthropology, Anthropological

AORL
Annals of Otology, Rhinology and Laryngology

Assn
Association

Astron
Astronomy, Astronomical

B
Boston

BCE
Before the Common Era

Biog
Biography, Biographical

Brit
British, Britain

Bull, Bulls
Bulletin, Bulletins

Camb
Cambridge

CE
Common Era

CHP
Niels Bohr Library and Archives, Center for the History of Physics, American Institute of Physics, College Park, Maryland

Coll
Collection(s)

comp., comps.
compiler(s), compiled by, compilers

Corresp
Correspondence(s)

DC  Washington, D.C.

Dict  Dictionary, Dictionnaire


EC  Englewoods Cliffs, New Jersey

Edc  Education

Ency  Encyclopedia, Encyclopaedia

Env  Environment, Environmental

ep.  epistle

f.  folder

facs.  facsimile

H  History, Historical

illus.  illustrator, illustrated by

Ind  Industrial

Inst  Institute

J  Journal (of / for)

JAMA  Journal of the American Medical Association

JASA  Journal of the Acoustical Society of America

JLO  Journal of Laryngology and Otology, vols. 1–5 as Journal of Laryngology and Rhinology, vols. 6–35 as Journal of Laryngology, Rhinology, and Otology

John W. Hartman  John W. Hartman Center for Sales, Advertising & Marketing, History, Center Rare Book, Manuscript and Special Collections Library, Duke University, Durham, North Carolina

L  London

l., ll.  line, lines

LA  Los Angeles

Lab  Laboratory

Lib  Library

Med  Medical, Medicine

Mfg  Manufacturing, Manufacturers

Mo  Monthly

→ n.  Refers to a previous full citation within the same Round, employed where the original is more than seven endnotes distant from subsequent, short-title citations

NARA  United States National Archives and Records Administration

n.d.  no publication date

Neurosci  Neuroscience, Neuroscientific

1. C. Mackenzie Brown, “Purāna as scripture: from sound to image of the holy word in Hindu tradition,” *H of Religions* 26 (1986) 68–86; Guy L. Beck, *Sonic Theology: Hinduism and Sacred Sound* (U South Carolina, 1993) esp. 9–29, and suggesting (pp. 35–38) that the idea of “pure cosmic sound” comes later to Hindu philosophy and theology than sound


10. With the advent of quiet electric/hybrid vehicles, the demand for more honking and beeping has reappeared. Autos and horns are pursued in Rounds Two and Three.


12. Anti-noise polemics plunder history for references that demonstrate, with contrary logic, both the hoary possession of noise and its ever-more egregious encroachment on


For ecological approaches: Yi-Fu Tuan, Topophilia: A Study of Environmental Perception, Attitudes, and Values (EC: Prentice-Hall, 1974); Peter A. Coates, “The strange stillness of the past: toward an environmental history of sound and noise,” Env H 10 (Oct. 2005) 636–65, and cf. Donald Worster, Nature’s Economy: A History of Ecological Ideas (Camb U, 1977) 258: in the TransMississippi West, “the howling wilderness still howls, but the timbre and the message of its voice have changed,” now that the deep bass song of a population of two million wolves has been almost everywhere silenced and yields now to the “high tenor wail and barks and yelps” of coyotes. Melding the ecological, biographical, and cultural is a well-composed study by Zeese Papanikolos, American Silence (U Nebraska, 2007), which despite its title deserves to be read aloud.


19. There are three odd exceptions: for centuries, the wealthy at court and then the “lesser sort” at public exhibitions could witness mechanical figures in human shape (gear-driven automata) reiterating performances, including the playing of musical instruments; similarly, people in the street could hear barrel organs or hurdy-gurdies exactly repeating tunes, accompanied sometimes by small “jacks” or miniature mechanical figures; finally, physicians, caretakers, and paying audiences at insane asylums might observe patients ritualistically repeating phrases or gestures called “stereotypies” or “automatisms.”


21. Hillel Schwartz, The Culture of the Copy: Striking Likenesses, Unreasonable Facsimiles (NY: Zone, 1996). Among the most nuanced cultural analyses of sound and noise is the work of a sound-installation artist, Paul Carter, The Sound In-Between: Voice, Space, Performance (Kensington: New South Wales U, 1992); idem, “Repetitions at night: mimicry,

22. This and the following two paragraphs are based on Edward J. Marolda and Oscar P. Fitzgerald, *The United States Navy and the Vietnam Conflict. II, From Military Assistance to Combat, 1959–1965* (DC: Naval Historical Center, 1986); Edwin E. Moïse, *Tonkin Gulf and the Escalation of the Vietnam War* (U North Carolina, 1996) 107–108, 127, 140–41, 165–67, 175; “Records about Hostile Fire Against U.S. and Australian Warships during the Vietnam Conflict, 10/25/1966–4/5/1970,” in Record Group 38, Records of the Office of the Chief of Naval Operations, National Archives II, College Park, MD, and online; Tonkin Gulf Collection, Operational Archives Branch, Naval Historical Center, DC, in particular: Box 1, f. 1, “Gulf of Tonkin Incident, Overview,” on history of surveillance and bombing, and chronology; Box 1, f. 3, Action Reports of the *Turner Joy* Sept. 11, 1964–Jan. 11, 1965 on the speeds and the darkness; Box 1, f. 4, Actions Reports of the *Maddox* and self-noise; Box 1, f. 8 Chronology Comdesdiv 192 on “skunks”; Box 1, f. 17, Personal Recollections of LCDR W. S. Buehler, Feb. 20, 1968, on history of Maddox and (p. 7) the ruptured eardrums, also rebutting (p. 14) the self-noise theory because “As a destroyer, it is our job to know about built-in noises; we had run tests before as a matter of routine, and after, to reproduce that noise, or any noise, and could not.” It is Buehler who also notes the “84 full rudder course changes in two hours.” Intriguing is Box 1, f. 21, “Possible questions that might be raised in books to be published on the Tonkin Gulf incident,” referring to I. F. Stone’s use of an excerpt from a NVN White Paper that suggests that the P.T. boats actually belonged to the South Vietnamese Navy, which was conducting secret missions. Finally, Box 7, Series V, Logs 1962–1965, f. 4, Logs of the *USS Maddox*—Sonar / Maintenance, includes a rhymed log from John H. Burns entitled “August 3, 1964,” concerning the first incident on August 2 when “The day it was sunny. The sun, it was bright.”


27. On universal language schemes, an interesting place to start is Umberto Eco, *The Search for a Perfect Language* (Oxford: Blackwell, 1995). For ur-syllables and notes, see


32. Peter Woodward, Sudan, 1898–1989: The Unstable State (Boulder: Rienner, 1990), and Edgar O’Ballance, The Secret War in the Sudan: 1955–1972 (L: Faber and Faber, 1977), both detailing such violence for so long in southern Sudan (north-east Upper Nile) that the Mabaan could not have escaped it all, although Rosen et al. made no mention of it. M. W. Daly, Imperial Sudan: The Anglo-Egyptian Condominium, 1934–1956 (Camb U, 1991) 43, 465,


39. Carl H. Delacato, *The Ultimate Stranger: The Autistic Child* (Novato: Arena, 1974) ch. 6; Annabel Stehli, *The Sound of a Miracle: A Child’s Triumph over Autism* (NY: Doubleday, 1991) 151–72. It may also be, following this logic, that autistic children do not experience the same chronic degeneration of the hair cells of the organ of Corti that has been used to explain data showing that sensitivity to higher frequencies begins to decline from the very first years of life: Shintaro Takeda, “Age variation in the upper limit of hearing,” *European J Applied Physiology* 65 (1992) 403–408.


**Round One**


3. Like the design of libraries, public librarianship has been given a radical rehearing over the last decades. Consider the children’s book by Susan M. Chapman, *Too Much Noise in the Library* (Janesville, Wis.: Upstart, 2010), which is actually a celebration of certain kinds of noise in libraries, and see Jefferson Graham, “Here’s America’s unquietest library,” *USA Today* (Oct. 14, 2003) 10D, on the Salt Lake City library designed by Moshe Safdie. On historical and modern experiences of reading in libraries, and of reading aloud


Around the 9th century, the writing of Hebrew was also transformed: points were added below the consonantical line to indicate vowel sounds. These *nekudot* have been credited to the need to clarify pronunciation and meaning for readers struggling to make sense of texts in a mix of biblical Hebrew, Masoretic Hebrew, and Aramaic—all “dead languages” still read aloud for worship or study and all written in one set of characters. The process of clarifying texts (and, to critics, of narrowing the range of interpretation) had begun with the introduction of cantillation symbols, diacritical marks, and vocalization placeholders (the *alef* and *yod*) in the 2nd–5th centuries CE: Edward Y. Kutscher, *A History of the Hebrew Language*, ed. Raphael Kutscher (Jerusalem: Magnes, 1982) 151. Whether Jews could read in easy silence by virtue of these points seems to be moot, since they used Hebrew texts primarily for public (oral) study and worship: Robert Bonfil, “Reading in the Jewish Communities of Western Europe in the Middle Ages,” in *History of Reading in the West*, 149–78. The vagaries of Jewish oral composition and aural reception are considered by Elizabeth S. Alexander, *Transmitting Mishnah: The Shaping Influence of Oral Tradition* (Camb U, 2006) 18–24.

As for Arabic, which had spread widely by the 9th century along the paths of an
expansive Islam, the written language was used for both secular and sacred purposes, with emphasis on calligraphy, so the context for development of punctuation and spacing was different, especially given the high value placed by both Sunni and Shi’ite teachers on the value of listening to the Qu’ran and commentaries. See Mohamed Aziza, La Caligraphie arabe (Tunis: STD, 1973) 20, 53 on spacing and vowel signs; Jean During, “Hearing and understanding in the Islamic gnosis,” World of Music 29,2 (1997) 127–37; Charles Hirschkind, “Ethics of listening: cassette-sermon audition in contemporary Cairo,” Amer Ethnologist 28 (2001) 623–49. A similar oral emphasis in Hindu culture may help explain why spacing between words in another alphabetic script, Sanskrit, has been a function of the alternation of vowels and consonants: Robert P. Goldman, An Introduction to the Sanskrit Language (Berkeley: Center for South and Southeast Asia Studies, 1974). Consider also the history and complex status of silent reading in Chinese as reviewed by Li Yu, “A History of Reading in Late Imperial China, 1000–1800,” Ph.D. thesis, Ohio State U, 2003.

By this excursus I am hedging the other side of the argument, that graphic clarity and diacritical specificity necessarily result in habits of silent reading. Indeed, even as vowel points were gaining currency in written Hebrew, spaces between words, customary for centuries, were being reduced by Jewish calligraphers using the elegant book hand of the 10th century, so that the entire line appeared to be “a single graphic unit”: Ada Yardeni, The Book of Hebrew Script (Jerusalem: Carta, 1997) 216.


11. The pigeons flap in Stein’s Four Saints in 3 Acts (1933) III.ii. And as for the continuity of “reading noises” in libraries: Ari Kilman, “The sound of the civic: reading noise at the


13. Baldesar Castiglione, *The Book of the Courtier*, tr. George Bull (Harmondsworth: Penguin, 1976) 10–11, 27, q. 69, q. 163–65. On a courtier’s social-psychological positioning: Stephen Goldblatt, *Renaissance Self-Fashioning* (U Chicago, 1980). Sixteenth-century musicians understood three categories of interval: the perfect consonances (unison, fifth, octave), the imperfect consonances (thirds and sixths) and the dissonances (seconds, fourths, sevenths), which had to resolve first to imperfect consonances and finally die down to perfect consonances. I thank Anthony Burr, a close reader of these Rounds, for his suggestions here.

14. John’s index finger led the eyes to the Word of God, whose voice was shown as a pointing hand emerging from clouds: Camille, “Seeing and reading,” 28; Jean-Claude Schmitt, *La Raison des gestes dans l’Occident médiéval* (P: Gallimard, 1990) ch. 3.


Gayatri C. Spivak, “Echo,” *New Literary H* (1993) 17–43, excellently glossed by John D. Zuern at http://maven.english.hawaii.edu/criticalink/spivak/index.html, focuses on a tricky part of the exchange (ll. 383–85) that I have skipped over. Narcissus shouts, *Quid me fugis*—“Why do you fly from me?” In English, Echo can reply with apparently personal vehemence, “Fly from me? [don’t you dare],” at once pleading and foreboding, a “warning-in-longing”; in Latin the poet cannot switch from the second person interrogative (*fugis*) to the imperative (*fugi*) without violating the acoustic premise of the echo. Ovid resorts therefore to paraphrase: *quot dixit, verba recepit*—“What he says, that’s what he gets back,” and once again Echo loses her intentional voice. In this can be heard, writes Spivak, how Echo is staged “as the instrument of the possibility of a truth not dependent upon intention,” evidence also of an inequality of punishments and rewards integral to the framing violence of the fable, the rape of the nymph Liriope by the river-god Cephisus that drives Liriope to consult Tiresias concerning the future of the rape-child, Narcissus. He will have a long life, says the blind seer, so long as he fails to recognize himself. Much more proceeds from Spivak’s analysis; what feeds back into my text is the figure of Echo as a voice displaced and disorienting. Cf. Luce Irigaray, *Speculum of the Other Woman*, tr. Gillian C. Gill (Toronto U, 1985) 256–57, 263–64, echo (and Echo) in the context of Plato’s Cave and Dialogues; Frances Gray, “Carry on, Echo: The dissident sound body,” *Sound J* (April 23, 2000) at www.ukc.ac.uk/sdfva/sound-journal/gray001.html. Finally, consider Pleshette DeArmitt’s analytic review of Jacques Derrida’s obsessive iterations of Echo as gambits for deconstructing and yet affirming the self: “Resonances of Echo: a Derridean allegory,” *Mosaic* 42.2 (2009) 89–100.


29. I use Alan H. Sommerstein’s well-annotated and raucous translation of


32. *OED*, s.v. “echo”, dating the verb-form to 1556. My allusion to Bob Dylan’s 1969 song, “Lay Lady Lay,” is more than playful; the last lines of his first stanza draw directly from the Echo / Narcissus tradition: “Whatever colors you have in your mind / I’ll show them to you and you’ll see them shine.” On Milton’s *Masque of Comus*: Loewenstein, *Responsive Readings*, 134–46, who fails to emphasize the centrality of noise to the plot (ll. 170–72):

> This way the noise was, if mine ear be true,  
> My best guide now, methought it was the sound  
> Of riot, and ill-managed merriment. . . .

Trying to follow her two younger brothers by their “ill-managed merriment” and praise of “bounteous Pan,” the Lady gets lost in the “tangled wood,” only then to appeal to Echo. The “noise” here may be Michaelmas Eve festivity: see “Comus” (1634) in *The Riverside Milton*, ed. Roy Flannagan (B: Houghton Mifflin, 1998) 131–33 and editor’s notes.
33. Hollander, *Figure of Echo*, 53. Although the world is full of echoes independent of us, Echo’s ability to reclaim an intelligible voice is ever in the context of her relationship to humanity, her ability to speak through us and impersonate us.


42. Loewenstein, Responsive Readings, 116–17 on Jonson’s Masque of Queenses (1609). By the third edition of his Essays (1625), in which appears “Of Masques and Triumphs,” Bacon regards masques as toys that, if princes must have them, should be elegant, their songs “loud and cheerful, and not chirpings or pulings,” their scene changes done “quietly and without noise” (from edition by Clark S. Northup [B, 1936] 119–20). For Jonson’s Epicoene, I use L. A. Beaurlne’s edition (U Nebraska, 1966), L.ii.135ff. for the turban, I.76–80 for the room, IV.i.7–10 for the snorting fury, and cf. Karen Newman, Fashioning Femininity and English Renaissance Drama (U Chicago, 1991) 135–36 on Jonson’s gendering of noise. Heather C. Easterling, Parsing the City: Jonson, Middleton, Dekker and the City Comedy’s London as Language (NY: Routledge, 2007) discusses the tradition of city noise in drama; Emily Cockayne, Hubbub: Filth, Noise, and Stench in England, 1600–1770 (Yale U, 2007) ch. 5 (and parts of ch. 7) evokes that noise—from the cries of dog catchers, their strays in tow, at five in the morning, through the pounding of coppersmiths at midday, to (p. 114) Rule 30 of Laws of the Market (1595) against any man after nine at night “beating his Wife, or servant, or singing, or reveling in his house, to the Disturbance of his neighbours.”

43. Bacon, Sylva Sylvarum, Century III, 49.


45. OED for all except “choir/quire birds” and “cant,” for which consult Eric Partridge, Dict of the Underworld (NY, 1961) 103, 550; Bacon, Sylva Sylvarum, Century II, 35, 45–46; Thomas Dekker, The Guls Hornbook and the Belman of London in Two Parts (L, 1905 [1608]) 17, 42, 81, 87, and 110 on the bellman; Stephen Egerton, The Boring of the Ear (L, 1623)
25


Young (L: Continuum, 2002) 59–69, q. 59.


60. François Rabelais, Gargantua and Pantagruel, tr. J. M. Cohen (Harmondsworth,
1955 [1533–1535]) 566–69 (= bk. 4, chs. 55–56), but preferring Burton Raffel’s translation (NY: Norton, 1990) 497 for the last line. Cf. Judith Anderson, “Frozen words,” in her Words That Matter: Linguistic Perceptions in Renaissance English (Stanford U, 1996) 7–42; Kimberlee Campbell, “Of horse-fish and frozen words,” Renaissance and Reformation, ser. 2,14 (1990) 183–92. Rabelais was expanding upon a classical image credited in Plutarch’s Moralia (I,421) to the playwright Antiphanes: “in a certain city words congealed with the cold the moment they were spoken, and later, as they thawed out, people heard in the summer what they had said to one another in the winter; it was the same way, he asserted, with what was said by Plato to men still in their youth; not until long afterwards, if ever, did most of them come to perceive the meaning, when they had become old men.” I thank Aline Hornaday for helping me to appreciate the ambiguities of Plutarch’s Latin syntax, through which Antiphanes may be poking fun at the denseness of Plato or of his Greek audience. Either way, the trope of the frozen word was commonplace by Plutarch’s time if not also in the time of Antiphanes (4th cent. BCE), as suggested by Adrian Room, ed., Brewer’s Dict Phrase and Fable, 16th ed. (NY: HarperCollins, 1999) 471, whose translation allows for “ripened judgment of mature age” to thaw out Plato’s wisdom, an interpretation appearing also in a sermon of 1648: “Till the Holy Ghost came to thaw their memories, that the words of Christ, like the voice in Plutarch that had become frozen, might at length become audible”: Henry Hammond, Sermons (L, 1664) xvii, quoted by E. H. in Notes and Queries, ser. 1, 3 (Mar. 8, 1851) 182.


Bede’s *Ecclesiastical History of the English Nation*, bk. V, ch. 12, q. 59. For the rest, Pamela Sheingorn, “‘Who can open the doors of his face?’ The iconography of Hell mouth,” in *The Iconography of Hell*, eds. C. Davidson and T. H. Seiler (Kalamazoo: Medieval Inst, 1992) 1–19; Gary D. Schmidt, *The Iconography of the Mouth of Hell* (Susquehanna U, 1995), dating to 10th-century British monks the first animalistic and anthropomorphic figures, in keeping with *Isaiah* 5.14 and a Scandinavian underworld of serpents and dragons. As a roaring lion with large teeth, the entry mouth itself became one of Hell’s torments. For a similarly noisy trajectory of conceptions of Hell in Islam: Nerina Rustomji, *The Garden and the Fire: Heaven and Hell in Islamic Culture* (Columbia U, 2009), which begins (p.3) with an account of the pre-Islamic Arabian “myth of the prophet Salih of the tribe of Thamud and the she-camel whose piercing screech brought about the end of their world,” drawn from Jan I. Smith and Yvonne Y. Haddad, *The Islamic Understanding of Death and Resurrection* (SUNY Albany, 1981) 5, 28–29.


69. Marek Tamm, tr. Kait Tamm, “Saints and the demonics: exorcistic rites in medieval Europe (11th–13th century),” *Folklore* 23 (2003) 7–24, at 16; Nancy Caciola, “Mystics, demonics, and the physiology of spirit possession in Medieval Europe,” *Comparative Studies in Soc and H* 42 (2000) 268–306, p. 293 for her translation and analysis of Johannes Nider, *Formicarius* (Douai, 1602) 185–87, a discussion expanded in her *Discerning Spirits: Divine and Demonic Possession in the Middle Ages* (Cornell U, 2003). As Lester K. Little explains in *Benedictine Maledictions: Liturgical Cursing in Romanesque France* (Cornell U, 1996) 17–28, 50–51, the notion of “clamor” had itself been shifting: in Late Antiquity the commotion necessary for a (poor) claimant to attract the attention of a king or present a petition before a magistrate seated on a throne, then a High Medieval liturgical petition from churchmen and monks (“How to Make a Clamor, in Case of Trouble, to the People or to God”—Book of Customs of the Abbey of Cluny, ca. 1075) or a prayerful crying from the people en masse (parvus clamor) to the Lord as the last resort, “clamor” by 1400 could be either an understandable plaint funneled through pious throats and proper authorities or an unruly uproar. For more detail: Richard E. Barton, “Making a clamor to the Lord:

70. Steven Connor, Dumbstruck: A Cultural History of Ventriloquism (Oxford U, 2000) pt. III; Caciola, “Mystics, demonics, and the physiology of spirit possession in Medieval Europe”; Zacharias Vicecomes [fl. late 1500s], Complementum Artis Exorcistae (1643), excerpted in The Occult in Early Modern Europe, ed. and tr. P. G. Maxwell-Stuart (NY: St. Martin’s, 1999) 46–48; Franco Mormando, The Preacher’s Demons: Bernardino of Siena and the Social Underworld of Early Renaissance Italy (U Chicago, 1999) q. 1, 10, 69, 79, 88, q. 107. On exorcism and 15th-century clerical uncertainty about the line between holy blessings and demonic curses: Michael Bailey, Battling Demons: Witchcraft, Heresy and Reform in the Late Middle Ages (Penn State U, 2003) 133–36. The uncertainty was strengthened by a long history of ecclesiastical anathema, on which Little, Benedictine Maledictions, as just above.


75. Krämer, *Malleus Maleficarum*, 228, bewitching voices.

76. Ibid., 104–12, q. 109, q. 111 (= pt. I, q. 1, ch. 3–4). Cf. Connor, *Dumbstruck*, 105–22. For more on how the Devil might insinuate himself into human bodies: Dyan Elliot, *Fallen Bodies: Pollution, Sexuality, and Demonology in the Middle Ages* (U Penn, 1998). Walter Stephens, in *Demon Lovers: Witchcraft, Sex, and the Crisis of Belief* (U Chicago, 2002), argues that the question of exactly how spirits consorted with humans was at the center of a larger anxiety about the reality and strength of the connection between divine and earthly realms, an anxiety exacerbated by a new demonology that made evil spirits hideously animalistic (thus difficult to relate to things human) or remarkably humanoid (and difficult to distinguish from the faithful). Details of intercourse between woman and demon, however lubricious the interests of the male authors, were complementary to the case that had to be made in favor of a real connection between the divine, the angelic, and the human. Sound was used as both model and mediator of this problematic relationship.


88. Bengt Ankarloo and Gustav Henningse, eds., Early Modern European Witchcraft:


91. “Laws of Harvard College in 1655,” Proc Massachusetts H Soc 14 (1876) 208–209; Charles Morton, Compendium Physicae (B, 1940) (used at Harvard and Yale from ca. 1687) 172; Samuel Willard, A Compleat Body of Divinity (B, 1726) Quest. LV, Sermon CLXVI, 644, 643, 647 (double pagination from 581–666[–68]: these from first count); Nehemiah Walter, Unfruitful Heaters Detected & Warned (B, 1696) with preface (pp. 3–4) by Willard, whose concern with aural indignities suffered by the Lord had been anticipated theologically by such as Thomas Aquinas, whose insistence upon an incarnate Savior meant that Christ on the Cross had “suffered in all His bodily senses,” including being “tormented with the cries of blasphemers and scorners”: Summa Theologica, tr. Fathers of the English Dominican Province (NY, 1947) II, 2269–2270 (= bk. III, quaestio 46, article 5).

92. P. E. and J. A. (= Willard), Some Miscellany Observations on Our Present Debates respecting Witchcrafts, in a Dialogue between S. & B. repr. (B, 1869 [1692]) 6, 13, 14,


100. Robert Boyle, New Experiments Physico-Mechanical, Touching the Spring of the Air, and its Effects (Made, for the most part, with a New Pneumatical Engine), 2nd ed. (Oxford, 1662) Expt. XXVII, 105–10, q. 106 “strangers,” and p. 8 on the squeak and whistle, which are discussed by Allan Chapman, “England’s Leonardo: Robert Hooke and the art of experiment in Restoration England,” Proc Royal Inst 67 (1996) 239–75 at 247–49. For the stammer: Robert Kahr, “Robert Boyle: a Freudian perspective on an eminent scientist,” Brit J H of Sci 32 (1999) 277–84. Renaissance alchemists, for whom the act of flawless replication was at once an ambition (the “philosopher’s stone”), a laboratory practice (though disguised or spiritualized), and a professional disgrace (since so few promises were realized or results replicable by others), may also have confronted the problem of experimental noise; surely, and literally, so had the manufacturers of explosives. Nowhere before, however, had acoustical noise been so clearly at the center of conversation among men theorizing about the very process of experimentation.

101. Steven Shapin and Simon Schaffer, Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life (Princeton U, 1985) esp. 225–82 on problems of replication; Boyle, New Experiments, 107–108; Chapman, “England’s Leonardo,” 246 on ether; MacIntosh, “Robert Boyle,” on the spirit world. Hunt, Origins in Acoustics, 121, cautions that “these experiments do not prove the inability of a rarefied medium to transmit acoustic energy, but only the extreme difficulty of imparting any appreciable amount of vibratory energy to such a medium.” Redoing the bell-in-a-jar experiment in 1705, Francis Hauksbee had no more luck creating a perfect vacuum, but he too, listening through a residual shrillness, accepted the experimental logic: “An experiment made at a meeting of the Royal Society, touching the diminution of sound in air rarefy’d,” Phil Trans Royal Soc 24 (1705) 1904.


104. Park, Fire within the Eye, 206 n.7; Penelope Gouk, Music, Science and Natural Magic in Seventeenth-Century England (Yale U, 1999) ch. 6, esp. 210; eadem, “The role of acoustics,” esp. 589–90; Dear, Mersenne and the Learning of the Schools, q. 139 from Mersenne’s Harmonie universelle, “Du son,” 2, and cf. Gouk, “The harmonious universe of Athanasius Kircher” (full cite for both, → n.33); Robert Hooke, “A General Scheme, or Idea of the Present State of Natural Philosophy,” Posthumous Works, ed. Richard Waller (NY: Johnson Repr., 1969 [1705]) 390, and also 135, “Lectures of light,” on the ear perceiving vibrations too fast for the eye to catch, vibrations that yield tones so shrill “we only call it screeching, and at length it becomes offensive to the Ear” of human beings, but “there may be yet beyond the reach of our Ears infinite shriller and shriller Notes, which may be distinguished by Ears or Organs of Hearing adapted by their lesser Bulks and finer parts,” and indeed such listeners “may have as great variety in the differences of Sounds wholly imperceptible to us as we have within the reach of our Ears.”

105. OED, s.v. “auricle,” “ear-drop,” “eavesdrop.” On eavesdropping as a genre of early modern European painting, see David Toop, Sinister Resonance: The Mediumship of the Listener (Continuum, 2010) ch. 7; on eavesdropping as a stepping-off point for a theory of listening-in-place: Brandon LaBelle, “Misplace—dropping eaves on ethics,” in Hearing


110. George Berkeley, An Essay towards a New Theory of Vision (1732, 1st ed. 1709) in Works, eds. A. A. Luce and T. E. Jessop (L, 1949) I,188–89; idem, Three Dialogues between Hylas and Philonous (1713), in ibid. II,181–83; David Berman, George Berkeley—Idealism and the Man (Oxford: Clarendon, 1994) esp. 21–42 on Berkeley’s retorts to Locke. As a student, Berkeley had been impressed by An Essay Concerning Human Understanding (1690), where Locke used the variety of sounds human and animal as an example (bk. II, ch. 18) of how “the mind may be furnished with distinct Ideas, to almost an infinite Number,” and how a composer may silently keep in mind Ideas of all the tones for a tune (p. 274 of edition by Peter H. Nidditch [Oxford: Clarendon, 1975]). Cf. David Hume’s use of the example of “a noise as of a door turning upon its hinge” so as to argue that we presume—and must presume—the continuity and constancy of the basic phenomena of daily life: A Treatise of Human Nature (1739), II, ch. 31, “Of scepticism with regard to the senses,” and IV, “Of personal identity,” on interrupting noises. For a philosophical demurrer: Casey O’Callaghan, Sounds (Oxford U, 2007).

Magic in Europe (→n.72).


115. Philo, “The ’chaotic spaces,’” 69–70; Andrew Scull, Most Solitary of Afflictions: Madness and Society in Britain, 1700–1900 (Yale U, 1993); Michael Cooper, A More Beautiful


for Boys,” tr. Brian McGregor, in Literary and Educational Writings, III, ed. J. K. Sowards (U Toronto, 1978) 269–89, 274 on art, but Erasmus does caution (p. 275) that “The mouth should be neither tightset, which denotes someone afraid of inhaling someone else’s breath, nor gaping open like an idiot’s.” Leonardo da Vinci had already observed that “As to Laughing and Crying, the Motions they produce in the Face, are very much alike, and the Characters they impress on the Mouth, Cheeks, and Eye-lids, not to be distinguished,” though in battle scenes the vanquished must be painted with “teeth unclenched, and in a Posture of shrieking and lamentation”: A Treatise of Painting (L, 1721) 56, 107.


123. John Angier, An Help to Better Hearts, for Better Times (L, 1647) 84–85; John Barnard, The Nature and Danger of Sinful Mirth, printed as pp. 89–129 of his Sin Testify’d
against by Heaven (B, 1727, i.e. 1728) q. 94. On Puritan ambivalence toward mirth: Bruce C. Daniels, Puritans at Play: Leisure and Recreation in Colonial New England (NY: St. Martin’s, 1995) chs. 1 and 6. Poorly configured for clear reception of a single (priestly) voice, Catholic cathedrals during services were noisy: worshippers chatted, babies cried, barking dogs wandered the aisles, and pilgrims prayed aloud in side chapels. Etiquettes of religious silence were maintained mostly in monasteries (for which consult John T. McNeill and Helena M. Garner, trs., Medieval Handbooks of Penance [NY, 1965] 260–64), not in churches where, prior to the Council of Trent, confession was made without booths.


For “fizzle”: so if unable to withdraw from company, one should fart but mask the sound with a cough.

no part of good manners to bring illness upon yourself while striving to appear ‘polite,’” (Harvard U, Human History Study of Flatulence). Zola, refined this observation in the English context, arguing that Renaissance manners were a progression from courtesy to civility to etiquette to mere manners as rules for conduct status and gender in etiquette and courtesy,” imposing “Big Boss.”

Religiologiques. Peter Armitage, “Religious ideology among the Innu of Eastern Quebec and Labrador,” Jean Feyens, who in “On Good Manners for Boys” (La Terre), argued that “it is no part of good manners to bring illness upon yourself while striving to appear ‘polite,’” so if unable to withdraw from company, one should fart but mask the sound with a cough. For “fizzle”: OED (1598 a quiet fart, 1739 a verb).


129. Cf. Elias, History of Manners, 51–84; Michael Curtin, “A question of manners: status and gender in etiquette and courtesy,” J Modern H 57 (1985) 395–423. Elias observed a progression from courtesy to civility to etiquette to mere manners as rules for conduct began to feel more “natural” and less in need of a sustaining aristocratic ethic. Curtin refined this observation in the English context, arguing that Renaissance manners were
supposed to affirm a moral vision about how to live nobly, and that as manners began to be promoted simply as an expedient toward social integration or economic advancement, they lost their moral anchorage and philosophical bearing. Both men imply that this fall from grace put manners into the hands of women, traditional arbiters of minutiae. I do not adhere to their distinctions or the direction of their argument, preferring Muchembled, L’invention de l’homme moderne, 135–290, and taking into account Richard Sennett, The Fall of Public Man: On the Social Psychology of Capitalism (NY: Vintage, 1978) pt. II.


135. Frank Harrison, ed., Time, Place and Music: An Anthology of Ethnomusicological Observation, c. 1550–1800 (Amsterdam: Frits Knuf, 1973) in order: 53, Charles de Rochefort (African slaves, 1658); 65, Adam Olearius (Isfahan, 1631); 90, Lionel Wafer (Darien, 1681); 38, Juan de Torquemada (Mexico, 1615); 74, John Scheffer (Lapland, 1673); 88, Simon de la Loubère (Thailand, 1687–1688); 56, de Rochefort; 19, Jean de Léry (Brazil, 1556–1559); 63, Olearius; 95, Jerome Merolla da Sorrento (Songo, 1682); 161, Jean-Baptiste Du Halde (China, 1735); 51, reports from João Nunes Barreto and André de Oviedo (Ethiopia, 1615). For the vicar, who quotes equally sour predecessors: Arthur Bedford, The Great Abuse of Music (L, 1711) q. 55 Cyril, 184 quavers, q. 206–207 martyrs, q. 209 jargon, q. 203 rattle


154. Francine du Plessix Gray, *At Home with the Marquis de Sade: A Life* (NY: Simon and Schuster, 1998) 20–24 pass.; Lucette Finas, *Le Bruit d’Iris* (P: Flammarion, 1978) 15–17, on de Sade’s “choc de la baguette sur la peau du tambour”; Marquis de Sade, *Juliette*, tr. Austryn Wainhouse (NY: Grove, 1988) 12, 17 on conscience, 15 on moral effects, 97 for owl. In Nicolas-Edmé Restif de la Bretonne’s *L’Anti-Justine* (1798), stories such as “The Wicked Husband” pivot around sensitivities to noise, either from outcries during sexual violence, fears or desires of being overheard, or the demands of sexual etiquette: “I leapt onto my daughter, who felt it slip painlessly in her and let out a sound. ‘Scream, will you!’ I said softly. And she shrieked her head off, realizing she was being screwed by a stranger”:


158. Laqueur, Solitary Sex, ch. 5 and 334–40 on the centrality of scenes of female and male masturbation to pornography; Peter Laslett, “Long-term trends in bastardy in England,” Family Life and Illicit Love in Earlier Generations (Camb U, 1977) 102–59; Alain Bourée, The Lord’s First Night: The Myth of the Droit de Cuissage, tr. Lydia G. Cochrane (U Chicago, 1998) 34; Anthony E. Simpson, “Vulnerability and the age of female consent,” in Sexual Underworlds of the Enlightenment, eds. Rousseau and Porter, 181–205. Noise was at the crux of a case discussed by Kathleen M. Brown in “Murderous uncleanness: the body of the female infanticide in Puritan New England,” in A Centre of Wonders, eds. Lindman and Tarter (→ n. 112) 76–94, which relates Puritan anxieties about erotic arousal and self-pollution to the grave sin and capital crime of infanticide. Accused of the murder of twin newborns in 1691, Elizabeth Emerson’s defense was their silence at birth, offered as evidence of stillbirth rather than infanticide. Her parents, abed in the same room as their daughter, claimed to have slept through the births, an apparent impossibility had there been two lively newborns. Having borne an illegitimate child five years earlier, Elizabeth had kept silent about this new illicit pregnancy and kept quiet through the births.


160. Onania, 31, 47, 109 on self-conversation; A Supplement to the Onania (NY: Garland, 1986 [1725]) 58–59; Samuel A. D. Tissot, Onanism, tr. A. Hume (L, 1766) vi, viii, 16–18. The groaning associated with masturbatory climax also echoed the aftermath of the Fall, which scripturally destined Eve’s descendants to hard labor, during which Englishwomen traditionally furnished their female attendants with “groaning beer” and “groaning cakes,” to help them all through the ordeal. In this context female masturbation could be heard as a mockery of childbirth. Consider Laurel T. Ulrich, Good Wives: Image and Reality in the Lives of Women of Northern New England, 1650–1750 (NY: Knopf, 1982) 127–28; idem, A Midwife’s Tale: The Life of Martha Ballard, Based on Her Diary, 1785–1812 (NY: Knopf, 1990); Wilson, Ye Heart of a Man (→ n.128) 84–85 on husbands hearing the groans of their wives during childbirth.

161. D. T. de Bienville, Nymphomania, or, a Dissertation Concerning the Furor Uterinus, tr. E. S. Wilmot, M.D. (L, 1775) q. v on pencil, q. x on blasphemies, q. xii on thunderbolts, q.
28 on fibres, 30, q. 36 on language, q. 37 on monsters and hissing, 74, 76, q. 171 “burning-glass”; A Supplement to the Onania, 152–67, swollen clitoris; Groneman, Nymphomania, 5, nymphomania in mental institutions, and noting (p. xx) that satyriasis, the male version, was rarely diagnosed, since men by the 1770s were expected to be naturally and boldly passionate.


TempleofHealth2.htm. On the philosophical differences between Franklin and Nollet and the status of electricity in 18th-century thought: Jessica Riskin, *Science in the Age of Sensibility: The Sentimental Empiricists of the French Enlightenment* (U Chicago, 2002) esp. 76–83, 88–90, 196–97. Her chapter on mesmerism is also apt, since sensations of mesmerism (eroticly tactile, the mesmerist’s thumbs lying lightly “on the nerve plexes which are located at the pit of the stomach, and the fingers on the hypochondria”) and depictions of mesmerized subjects (sprawling, open-mouthed, half-asleep women) were identical to those for masturbation. Although mesmeric salons used only wands akin to lightning rods drawing down universal fluids into healing tubs, patients did moan and sigh as evidence of cure, and Mesmer himself noted that mesmeric fluid “is communicated, propagated, and intensified by sound”: George Bloch, comp. and tr., *Mesmerism: A Translation of the Original Scientific and Medical Writings of Franz Anton Mesmer* (Los Altos: Kaufman, 1980) 63, 82.


(Oxford: Blackwell, 1986) 25–27, 306–10; Stephen Garton, *Histories of Sexuality* (NY: Routledge, 2004) ch. 5. Henry Abelove, “Some speculations on the history of sexual intercourse during the ‘long eighteenth century’ in England,” *Deep Gossip* (U Minnesota, 2003) 21–28, argues that rising fertility during the late 1700s was of a piece with the privileging of production in other realms and that the more climactic forms of family limitation, such as oral sex, anal sex, and mutual masturbation, were being replotted as preliminaries to the main event. The invention of “foreplay” thus rode the same currents as attacks on masturbation, driving full-force toward intercourse.


175. Kant, *Observations*, q. 47, 48, q. 52, q. 55, 76–96, 98. The idea of “comfort,” to which Kant opposed the sublime, was being upholstered at just this time: John E. Crowley, *The Invention of Comfort: Sensibilities and Design in Early Modern Britain and Early America* (Johns Hopkins U, 2001). Kant in 1766 moved from lodgings near warehouses along the
Pregel to an apartment away from the noise of river commerce: Kant, *Kant*, 159.


184. Benedict Nicolson, *Joseph Wright of Derby: Painter of Light* (NY: Pantheon, 1968) 1,43–46, 104–105 on Bates; Werner Busch, *Joseph Wright of Derby: Das Experiment mit der Luftpumpe* (Frankfurt am Main: Fischer, 1986); Jenny Uglow, *The Lunar Men* (NY: Farrar Straus Giroux, 2002) 122ff.; Richard L. Edgeworth, *Memoirs of Richard Lovell Edgeworth Begun by Himself and Concluded by His Daughter Maria Edgeworth* (Shannon: Irish U, 1969 [1820]) 1,146–49, 171–72; James Ferguson, *Lectures on Select Subjects in Mechanics, Hydrostatics, Pneumatics, and Optics* (L, 1764 [1760]) 119, plate XIV for an air pump similar to that in *An Experiment*. Stephen Daniels, *Joseph Wright* (Princeton U, 1999) 40–41, notes that Wright had earlier used a white cockatoo as an emblem of luxury in a portrait of Mr. and Mrs. William Chase. At www.search.revolutionaryplayers.org.uk, Olga Baird notes that white cockatoos were “little known in England until the 1770s when they were depicted by British draughtsmen taking part on Captain Cook’s journeys.” Wright could have seen drawings by continental artists familiar with the bird trade from the Dutch East Indies, and the English naturalist Eleazar Albin had indeed beheld a white cockatoo in the flesh in the 1730s (*A Natural History of Birds* [L, 1738] 1,12), but Wright may never have seen a live mature specimen. The bird in his glass sphere is too small, more like a dove than an adult white cockatoo, which averages 17–18 inches long and has a white crest that unfurls like an umbrella. On the loudness of white cockatoos: Karl Diefenbach, *The World of Cockatoos*, tr. Annemarie Lambrich (Neptune City: TFH, 1985) 129.


Voyages of Capt. James Cook (NY: Walker, 2003) 220–25 and cf. 78 on the sound of tattooing, 88 on Maori war chants, 216 on his sailors. See Thomson, figs. 13–16 for ears of the statues, longest (p. 498) in older statues reflecting the chiefs of a “long-eared race” (pp. 528–29) that had reigned before Europeans arrived.


190. Jennifer Tann, ed., Selected Papers of Boulton and Watt. I. The Engine Partnership 1775–1825 (MIT, 1981) 400; Marsden, Watt’s Perfect Engine, 15, nervousness about high pressure, as also D. S. L. Cardwell, From Watt to Clausius (Cornell U, 1971) 46–50, 84; Thomas H. Marshall, James Watt (Edinburgh, 1825) 122 and noting (p. 138) that of the 325 steam engines produced from 1775 to 1800, a preponderance went to textile mills; Francis Trevithick, Life of Richard Trevithick (L, 1872) I,59, 103, 120, 123–25, 156, 193, and II,184; Uglow, Lunar Men, 97, five miles; Hunter Davies, A Biographical Study of the Father of Railways, George Stephenson (L: Weidenfeld and Nicolson, 1975) 41–43. The Prussian Field Marshal Gebhard von Blücher defeated Napoleon at Laon in March 1814 and led his army into Paris as Stephenson was finishing his locomotive; Blücher’s forces were later instrumental in the victory at Waterloo.


between life and death during which bodies apparently dead can be brought back to life; in Shelley’s


One who did pay heed to Bonnaterre was the young pharmacist Julien Joseph Virey in his *Histoire naturelle du genre humain* (1800) in which he distinguished between humans and other animals based in part on the human ability to make systematic distinctions—e.g., we may have less acute hearing, but we are more alert to consonance and dissonance. Such aural discrimination, indeed, was so basic to humanity that “the deaf appear even less intelligent than the blind” (174–75 in 1834 Paris edition). Virey’s dissertation on the wild boy is reproduced in Gineste, *Victor de l’Aveyron*, 179–97.


imposition of oralist pedagogy, more carefully situated by Anne T. Quartararo, *Deaf Identity and Social Images in Nineteenth-Century France* (Gallaudet U., 2008) 9–67. Examples of 18th-century treatments for deafness may be found in an anonymous text at the National Library of Medicine, MS B 138. Prescriptions and instructions for making various medicines (L., 175–?), 87ff., and cf. James Graham’s advertisements in *The Pennsylvania Gazette* (May 28 and July 9, 1772), promising cures of total and partial deafness and of “continual and remitting noises and sounds in the ears.” Blindness, similarly, could refer to degrees of weak-sightedness, and the educated “blind,” who often had some residual vision, pitied the deaf as socially inept, “uneasy and distrustful amidst a crowd or in company,” and therefore “constantly sad”: Thérèse-Adele Husson, *Reflections: The Life and Writings of a Young Blind Woman in Post-Revolutionary France*, trs. and eds. Catherine J. Kudlick and Zina Weygand (NYU, 2001 [1825]) 4, 33.


215. Jean Marc Gaspard Itard, *Traité des maladies de l’oreille et de l’audition* (P, 1821) I, 36, 151–57, q. 4; Jean Fernel, *The Physiologia*, ed. and tr. John M. Forrester (Phila: Amer Phil Soc, 2003 [1567]) 111, 333, 469; Erlmann, *Reason and Resonance* (→ n.37) 61–64. One 18th-century anatomist had emphasized the importance of a “limpid serosity” filling the labyrinth, though he could not locate the ducts from which this “humor” had to


219. Kenneth W. Berger, “Early bone conduction hearing aid devices,” Archives of Otolaryngology 102 (1976) 315–18, with illustration of bone-conduction device created by Itard himself; Itard, Traité, 1,134–35, 144. A contemporary, Thomas Buchanan, thought enough of ear wax to imply that it too might be a medium for transmitting sound: Physiological Illustrations of the Organ of Hearing, More Particularly of the Secretion of Cerumen, and

220. George T. Ealy, “Of ear trumpets and a resonance plate: early hearing aids and Beethoven’s hearing perception,” 19th-Century Music 17,3 (1994) 262–273; Barry A. R. Cooper, Beethoven (Oxford U, 2000) 72, 103, 108, 116, 120, 225, 256, 260, 265, 291; Lawrence Kramer, Music as Cultural Practice, 1800–1900 (UC, 1990) 49–71 on Opus 111, q. 50; Russell Martin, Beethoven’s Hair (NY: Broadway, 2000) 273–38 (hair sample with 42x the average lead level); “Argonne researchers confirm lead in Beethoven’s illness,” Sci Daily (Dec. 8, 2005) at www.sciencedaily.com/releases/2005/12/051207211035.htm but contrast Jillyn Smith, Senses and Sensibilities (NY: Wiley, 1989) 45, Beethoven suffering from the abnormal bone growth of Paget’s Disease, which can crush the auditory nerves; Peter Charleton, at www.physics.usyd.edu.au/~simonj/lvb/ps_more.html#op111 (site created by Simon Johnston, 2000); Anthony Burr, personal communication, Jan. 2009; Eric Bromberger on Opus 111, in www.performances.org/encores_note/Pogorelich.asp (2004), asking with regard to the second movement, whose final variation employs trills that go on for pages: “Can it be that Beethoven—who had been deaf for years when he wrote these works—made such heavy use of trills so that he could at least feel the music beneath his hands even if he could not hear it?” Ealy (p. 264) notes that Beethoven had considered electrical treatments for his deafness but never got them—fortunately, given that Volta had tested his new battery as a means for stimulating hearing but found that after he pushed a metal rod into each of his own ears and closed the circuit, he “began to be conscious of a sound, or rather a Noise in my ears...a kind of crackling, jerking or bubbling as if some dough or thick stuff was boiling,” which continued until he broke the tinnital circuit: Alessandro Volta, “On the electricity excited by the mere contact of conducting substances of different kinds,” Phil Trans Royal Soc 90 (1800) 403–32, q. 427.

221. Chladni, Traité d’acoustique, 46–47, 257, 265; James Tenney, A History of Consonance and Dissonance (NY: Excelsior, 1988), esp. 78–80 on the early-19th-century redefinition of dissonance as notes “judged to have a strong tendency to motion,” similar to the constant motion of Brownian particles. For decades Itard had listened through the odd timbres and loud tones of the deaf, but he had also listened to their incidental noises while laboring to speak, since these noises were key to correcting the mouth shapes and tongue positions of all whose hearing was inadequate to monitor their own sounds.

On “cats’ music”: Fritz Spiegl, Music Through the Looking Glass (L: Routledge and Kegan Paul) 56–58, reproducing an engraving by Johannes Kellerthaler (ca. 1560–1637), “Narrenkonzert am Katzenklavier,” after a drawing by Jacques Callot, who reworked an emblem from Johann Theodor de Bry’s Emblemata Saecularia (1596), reproduced in Robert J. Richards, “Rhapsodies on a cat-piano, or Johann Christian Reil and the foundations of Romantic psychiatry,” Critical Inquiry 24 (Spring 1998) 700–36 at 701. The idea, which reversed the imagery of cats playing musical instruments on late-medieval marginalia, and which had perhaps its origins in a carnivalesque 1549 procession in Brussels, was amplified by Athanasius Kircher in Musurgia Universalis (1650) and Caspar Schott, Magia Naturalis


223. Jenny Uglow, Elizabeth Gaskell: A Habit of Stories (L: Faber and Faber, 1993) 95, from a baby diary of her daughter Marianne, whose early sounds Gaskell noted and listed.


226. Michael Ignatieff, A Just Measure of Pain: The Penitentiary in the Industrial Revolution, 1750–1850 (L: Macmillan, 1978) 102; Jonas Hanway, Solitude in Imprisonment (L, 1776) 102–104, 104, 104, 106, 109; G.F.R. Barker, “Hanway, Jonas,” DNB VIII, 1196–1200, and cf. Foucault, Discipline and Punish (→ n.89). The faith that English prison reformers placed in solitude had shallower roots in monasticism than in mystical, Neoplatonic, and Puritan ideas of the power of private meditation, on which listen to Tom Dixon, “‘Meditation is the Musick of Souls’: the silent music of Peter Sterry (1613–1672),” in Silence, Music, Silent Music (→ n.10) 187–203, and to Thomas Bowen, Thoughts on the Necessity of Moral Discipline in Prisons, As Preliminary to the Religious Instruction of Offenders (L, 1797) 19: “when they are left to commune with their own hearts in SILENCE and in SOLITUDE, they are then placed in a situation best calculated to dispose their minds for the reception of religious truths.”


Newgate; W. S. Inman, ed., Report of the Committee of the House of Commons on Ventilation, Warming and Transmission of Sound (L., 1836); Extracts from the Second Report of the Inspectors of Prisons from the Home District (L., 1837) 33–41. Frederic Hill, inspecting Scottish prisons, could hear the prisoners from a distance, given the “profane language that was shouted to persons walking beneath the walls”: An Autobiography of Fifty Years in Times of Reform (L., 1893) ch. 7, q. 122.


234. Francis C. Gray, Prison Discipline in America (L., 1848) 32; Carnegie Library of Pittsburgh, Pittsburgh in 1816 (Pittsburgh, 1916) at www.carnegielibrary.org/locations/pennsylvania/history/pgh1816.html; Prison Discipline Society of Boston, Reports, no. 1 (for 1826) 23 on more “colored” than whites, q. 37 on sodomy, q. 46 on moral discipline, and no. 2 (for 1827) 58 against “unrestrained intercourse between villains,” 64 on sodomy; Ayers, Vengeance and Justice, 61, 295 on Maryland. On pressures to imprison free blacks in the North: Scott Christianson, With Liberty for Some: 500 Years of Imprisonment in America (Northeastern U, 1998) 97, 104–106. National statistics for the years 1880–1970 show that non-white prisoners on average constituted one-quarter to one-third of the prison population but more than a half in parts of the South; the data also suggest that black prisoners everywhere served longer sentences: Jessie C. Smith and Carrell P. Horton, eds., Historical Statistics of Black America (NY: Gale, 1995) 425, 455, 541; Margaret W. Cahalan and Lee Anne Parsons, Historical Corrections Statistics in the United States, 1850–1984 (Rockville:


240. “Our grand periodical sham!” Frederick Douglass Paper (June 16, 1854), and “[Picture of New York],” ibid. (Dec. 3, 1852); John Adams to James Warren, April 22, 1776, in Letters of Delegates to Congress, 1774–1789, ed. Paul H. Smith (DC: Lib of Congress, 1976–2000) III,570, as also XX,228, Oliver Ellsworth to Oliver Wolcott, May 6, 1783, and XIX,252, David Howell to Nicholas Brown, Oct. 12, 1782, and XXII,522–23, Richard Henry Lee to James Duane, July 20, 1785; Sean Wilentz, Chants Democratic: New York City and the Rise of the American Working Class, 1788–1850 (Oxford U, 1984) q. 52 from the Independent Mechanic (April 13, 1811), and throughout. The Founding Fathers were no friends to urban hurly-burly: Ben Franklin in Philadelphia moved away from the market area to avoid the frequent interruptions that caused him to have to repeat himself in conversation, and he “resented ‘the whole Fraternity of Noise’”; John Adams wrote, when young but already strong-minded: “Who can study in Boston streets?... My eyes are so diverted with chimney-sweepers, sawyers of wood, merchants, ladies, priests, carts, horses, oxen, coaches, market-men and women, soldiers, sailors; and my ears with the rabble-gabble of them all, that I cannot think long enough in the street, upon any one thing, to start and pursue a thought”; Carl Bridenbaugh, Cities in Revolt: Urban Life in America, 1743–1776 (NY, 1964 [1955]) 24. 35–36.


physicians had devised an aural-tactile diagnostic scheme that correlated pulse beats with the ten Hebrew vocalizations, so that the condition of body and soul were simultaneously bespoken by the sound rhythms of the pulse: Lawrence Fine, *Physician of the Soul, Healer of the Cosmos: Isaac Luria and His Kabbalistic Fellowship* (Stanford U, 2003) 165–66.


262. Laennec, De l’auscultation médiate (facs. 1st ed.) I, q. 171, 172–74, 215, and II,1–4, 196–97, 202, 206, 211, and 95 for the fly in a vase, translated by Duffin, To See with a Better Eye, q. 141; idem, A Treatise on . . . Mediate Auscultation (tr. John Forbes from 3rd ed.) 56–61, 580, 588, 602–03; idem, Traité de l’auscultation médiate (3rd ed.) I, 44–45. A. John Robertson and Robert Coope warn that it is difficult to know what râle meant to Laennec; literally a “rattle,” it was more likely a wheeze, given that Laennec spent much of his time listening-in to patients who had “phthisis,” a covering term for pneumonias and tuberculosis: “Râles, rhonchi, and Laennec,” Audible Past, 141–42.


265. John Forbes, Original Cases with Dissections and Observations illustrating the Use of the Stethoscope and Percussion in the Diagnoses of Diseases of the Chest (L, 1824 [where appears the first English version of Auenbrugger’s work]) 86; William Stokes, Introduction to the Use of the Stethoscope (Edinburgh, 1825) 103–104; McKusick, Cardiovascular Sound, 15–18, for Elliottson, Bouillaud, Nonnensausen. Cf. Charles Hooker, Essays on Intestinal Auscultation (B, 1849) for attempts to sort out borborygmi as an index to cholera and colic. Oliver Wendell Holmes, poet and Harvard professor of physiology, satirized the congeries of
sounds in “The Stethoscope Song” (1848), in which a physician mistakes the “concert” of two flies trapped within his stethoscope for *amphoric buzzing*, or *bruit de râpe*, *bruit de scie*, and *bruit de diable* all at once: *The Poetical Works* (B, 1904) 1:48–52. Cf. also the mistaken deductions made by the narrator in Edgar Allan Poe’s “The Oblong Box,” *Godey’s Lady’s Bk* 29 (Sept 1844) 132–36, who listens through the thin walls of a ship’s stateroom to determine what lies in a mysterious box being opened and shut in the next room over.


269. Gardiner, The Music of Nature, 17, 19, q. 23, q. 24, q. 25, 27, q. 35, q. 37n., q. 39, q. 56, q. 59.


273. McKusick, *Cardiovascular Sound*, 416 on Brichetean, 17 on Graves, 299 on Duroziez; Bowditch, *Young Stethoscope*, 51n.–52n. on Bigelow; Robert Martin, ed., *Collected Works of Dr. Peter M. Latham* (L., 1876–1878) I, q. 3, 30, q. 53, q. 49. Cf. Richard Bradford, *Silence and Sound: Theories of Poetics from the Eighteenth Century* (Fairleigh Dickinson U, 1992) on literary discussions of how printed poetry, especially blank verse, could be approached; silent readers (listening-in upon the text) were liable to mis-hear the voice and passions of verse, while those who read aloud might mis-speak the lines, if untrained in declamation or insensitive to the cadences, accents, and implicit variations in intensity.


276. Codman & Shurtleff’s [Catalog of] *Surgical and Dental Instruments and Kindred Articles* (B, 1888) 92–93, lists the advantages of Cammann’s “double” or binaural stethoscope: it better excluded external noises, better intensified internal sounds, was easier to hold in place, and allowed a practitioner to keep his eyes on the bell-end. Endorsed by Austin Flint, it was refined by Dr. James A. Knight, who added a spring that kept the two earpieces opposed. The catalog quotes Knight urging “all who practice auscultation to use the double instrument, and would simply suggest that they not be dissuaded from its use by the roaring which will annoy them at first, but which they will soon disregard…” According to studies reported by P. J. Hollins, “The stethoscope: some facts and fallacies,” *British J Hospital Med* 5 (1971) 509–16, the smaller the diameter and longer the stethoscopic tubing, the more noise and acoustical loss, but the binaural system generally affords a 20-db advantage over the monaural at 60–400 Hz (the range of most visceral sounds), while at 850–1000 Hz the monaural system can be more sensitive, an argument made earlier for the naked ear by Lewis A. Conner, “On certain acoustical limitations of the stethoscope and their clinical importance,” *Trans Assn Amer Physicians* 22 (1907) 113–21, and arguing (p. 120) that “In the case of the lungs… the sounds least well propagated through the stethoscope are those which, from the standpoint of diagnosis, are among the most important to be heard.”

278. Joseph-Honoré-Simone Beau, Traité expérimentale et clinique d’auscultation (P, 1856) ix, 46; Paul Hamon, “Colombat (Marc),” Dict de biographie française, ed. Roman d’Arnat (P, 1961) IX, 322–23; Marc Colombat de l’Isère, Du bégaiement et de tous les autres vices de la parole (P, 1830) esp. 35, 111; idem, Le Mécanisme des cris et leur intonation notée dans chaque espèce de douleurs, physiques et morales (P, 1840) q. 1, 2, 6, 9, 11, 12; Jean-Georges Kastner, Les Voix de Paris... suivi de Les Cris de Paris, Grande Symphonie humoristique vocale et instrumentale (P, 1857) v–vi, 1, 3n., 13n., 14–15, 26, 28, 36, 51, 74–77; George Augustus Sala, Twice Round the Clock; or, The Hours of the Day and Night in London (L, 1859). This celebration of the interjection had not gone unattacked: John Horne Tooke, EITTEPOENTA or The Diversions of Purley, 2nd ed. (L, 1798) I, 60–63, who argued that interjections, like “sneezing, coughing, groaning, shrieking, and every other involuntary convulsion with oral sound,” were only “the miserable refuge of the speechless” and unworthy of a place among the parts of speech, however “beautiful and gaudy.”


282. Johnson, Listening in Paris, ch. 3 on the new attentiveness; Michael Fried, Absorption and Theatricality: Painting and Beholder in the Age of Diderot (U Chicago, 1980) q. 55; Michael P. Steinberg, Listening to Reason: Culture, Subjectivity, and Nineteenth-Century Music (Princeton U, 2004); Louis Sebastien Mercier, Le Tableau de Paris, ed. J.-C. Bonnet (P: Mercure de France, 1994 [1783]) II,703 (= ch. 74.4) on varieties of applause—and throughout, on most everything else optical and acoustic; John Brown, A Dissertation on


284. Peter Szendy, Écoute: une histoire de nos oreilles (P: Éditions de Minuit, 2001) 93, quoting an 1858 tirade against the barbarous arrangements that itinerant musicians played as “advance publicity” of operas; Dizikes, Opera in America, 95; Leon Botstein, “Music and Its Public” (→ n.260) on the musical skills and education of audiences; Levine, Highbrow/Lowbrow, 86–90, q. 91.

Soldier: an earwitness account of Napoleonic warfare; Jakob Walter, Audible Past, 1991, especially Dutton Cook, “Applause, calls, and encores,” in (Feb. 1853) 312, a noisy St. Louis audience “so sharply rebuked in all the daily papers” that at succeeding concerts the room was suitably quiet, but further battles over the “Encore Swindle” as described by Punch were reprinted in Dwight’s J of Music 10 (Jan. 31, 1857) 140, in 13 (May 1, 1858) 36–37, and in 15 (Sept. 3, 1859) 83 and (Sept. 10, 1859) 188–89. Later debates over encores, and their dark twins, hissing and booing, may be tracked through the “Applause and Encores” clippings file of the Harvard Theatre Collection, Houghton Library, Harvard U, especially Dutton Cook, “Applause, calls, and encores,” Every Saturday (Jan. 22, 1870) 54–55, a seminal article.

The noisiness of audiences had also been a function of the length of concerts, which could last six hours, auditors coming and going, eating and drinking, according to their own rhythms. As programs were shortened, theater directors and conductors could more readily demand that audiences sit quietly. Cf. Peter A. Bloom, “The public for orchestral music in the nineteenth century,” in The Orchestra: Origins and Transformations, ed. Joan Peyser (NY: Scribner’s, 1986) 251–89. On 19th-century shifts in hearing and viewing music, see Richard Leppert, “The social discipline of listening,” in Aural Cultures, ed. Jim Drobnick (Toronto: YYZ, 2004) 19–35, noting that the less spontaneously responsive were music audiences, the more histrionic became performers and conductors, compensating for lost interactions, on which cf. Sennett, Fall of Public Man (→ n.129) 191, 202.


290. Obversely, Johnson, *Listening in Paris*, 23off., associates the “emergent code of silence during performances” in France after 1820 with a newly confident bourgeoisie whose silence was as much an act of social vigilance and self-reassurance as the result of the creation of a “private space for inner communion” with music or drama, so it could be hard to tell whether an audience was entranced or politely bored, especially with less “representational” music, on which cf. Carl Dalhaus, *The Idea of Absolute Music*, tr. Roger Lustig (U Chicago, 1989).

291. Henry David Thoreau, *Journal. Volume I: 1837–1844*, ed. E.H. Witherell et al. (Princeton U, 1981) 34, and also 50, entry for Aug. 5, 1838: “Some sounds seem to reverb along the plain, and then settle to earth again like dust; such are Noise—Discord—Jargon. But such only as spring heavenward, and I may catch from steeples and hill tops in their upward course, which are the more refined parts of the former—are the true sphere music—pure, unmixed music—in which no wail mingles.”


On theories of metaphor: In the context of Philip Wheelwright’s *Metaphor and Reality* (Indiana U, 1962) 70–91, this chapter traces a shift from noise as epiphor, a mimetic and “semantic movement from one term over onto another, resembling it but less well known,” to noise as diaphor, a ludic and experiential juxtaposition from which arises “new meanings or fresh recognitions.” Epiphor (p. 91) hints at significance; diaphor creates presence.


at http://home.no.net/lotsberg/data/old.html.


15. Jean Verdon, Night in the Middle Ages, tr. George Holoch (U Notre Dame, 2002) 80–82, 85–99 on the nightwatch; Elisabeth Crouzet-Pavan, Espaces, pouvoir et société à Venise à la fin du moyen âge (Rome: École française de Rome, 1992) 1,225–61, 804–806; Ekirch, At Day’s Close, 63–65, 72–73, 76ff.; Sala, Twice Round the Clock, 300, comparable to the noisiness of American receptions as deplored by Charles Dudley Warner, “Editor’s drawer,” Harper’s New Mo Mag 79 (June 1889) 156–57. The night shrank earlier in Paris: once reflecting lamps were installed in the streets (1788–1794), Restif de la Bretonne found the quiet and darkness of the night had diminished to a single hour, between 3 and 4 a.m., when the reverberes had guttered out and dawn had not yet arrived: Les Nuits de Paris (P: Hachette, 1960) 93 (= 151st night), 106 (= 180th night). Cf. Yi-Fu Tuan, Landscapes of Fear (U Minnesota, 1979) 163 on the crying of curfew in the city of Ch’ang’an during the Tang, when drums were beaten eight hundred times, and beaten again to reopen the gates in the morning.


17. Schlör, Nights in the Big City, 42 on noisiness, 44 on watchmen, 46 on concentrated


19. John W. F. Herschel, “Sound” [1830], Encyclopaedia Metropolitana (L., 1817–1845) First Division: Pure Sciences, IV,752; W. Mullinger Higgins, The Philosophy of Sound and History of Music (L., 1838) 13; Alexander von Humboldt and Aimé Bonpland, Personal Narrative of Travels to the Equinoctial Regions of the New Continent, During the Years 1799–1804, tr. Helen Maria Williams (NY: AMS, 1966 [1818–1829]) V,67–69 on “Oroonoko” cataracts, and IV,436–38 on night noises, 505–506 on noon calm, and cf. a summary in “Clearness of sound at night,” The Colored American (NY) (Nov. 2, 1839). On Humboldt’s (and other Europeans’) inability to appreciate the “barbarous, lustful, ululating, and angry shouting” of the bogas, or boatmen, who took him downriver from the Caribbean into the Amazon: Ana Maria Ochoa, “Listening and the constitution of aural regimes of knowledge in 19th-century Colombia,” Conference on Thinking Hearing: The Auditory Turn in the Humanities (U Texas at Austin, Oct. 2, 2009). Also at work here was the Northern European typification of world geography in terms of a humanly quiet but mechanically loud North as opposed to a humanly loud but industrially quiet South, which figured as well in the prelude to the Civil War in the United States: Mark M. Smith, Listening to Nineteenth-Century America (U North Carolina, 2001).


Joan E. Cashin (Princeton U, 2002) 9–34, argues that home and battlefield were never as segregated acoustically as they were visually, particularly in the Confederacy, where the noises of war, and the desconcerting silences after the war, were more at odds with the South’s traditional aural registers.


particularly impressed by the figure of Isaiah, who “is listening and he is speaking ‘that
There is an anxiety, an effort to hear, even, about the Delphian
which we
McDonald, ed.,
54
brucellosis and more.
(Dec.
1990
perspective,” in
Browning
(L: Allen & Unwin,
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Creative Malady: Illness in the Lives and Minds of Charles Dar-
1914
Notes on Nursing: What It Is, and What It Is Not
(L, 1863)
59
psychoneurosis; Marion J. Brook, “Some
182
some resemblance to the Sistine Chapel, where she was
t here is no uncertainty

1700
233
2004
468
325–51.

2002
74
31
412–17; Bostridge,
Florence Nightingale, 188–277;
“The Nightingale’s Return,” Punch,
or the London Charivari 31 (Aug. 23, 1856) 73; Mary C.
Sullivan, ed.,
The Friendship of Florence Nightingale and Mary Clare Moore (U Penn, 1999)
2 on the letters, now being published in their entirety in
The Collected Works of Florence Nightingale, ed. Lynn McDonald (Wilfrid Laurier U, 2001–). In the first volume,
Florence Nightingale: An Introduction to Her Life and Family (2002) 843–45, McDonald disputes the
critiques of Smith, Vicinus, and Nergaard. Anne Summers,
Nightingale’s prejudices against paid, working-class nurses (disputed by Gill) and suggests
that Catharine Leslie Anderson, a lady volunteer, was sometimes mistaken for Nightingale, so that tales of her personal nursing may have been misattributed. The quotations
on discipline and nursing reform come from a letter to Mary Jones of Jan. 8, 1867, in vol.
3, Florence Nightingale’s Theology (2002) 468. For retrospective diagnoses of Nightingale’s
illness(es): Charles Pickering, Creative Malady: Illness in the Lives and Minds of Charles Dar-
win, Florence Nightingale, Mary Baker Eddy, Sigmund Freud, Marcel Proust, Elizabeth Barrett
Browning (L: Allen & Unwin, 1974) 99–182, psychoneurosis; Marion J. Brook, “Some
thoughts and reflections on the life of Florence Nightingale from a twentieth-century
perspective,” in Florence Nightingale and Her Era, eds. Vern Bullough et al. (NY: Garland,
(Dec. 23, 1995) 1697–1700, brucellosis, developed by Gill, Nightingales, 423–31; Katherine
L. Wisner et al., “A case of glimmering gloom,” The Pharos (Alpha Omega Alpha Honor Med

[1860]) 25–33; idem, Notes on Nursing for the Labouring Classes (L, 1861) ch. 4, q. 35, 40;
Smith, Florence Nightingale, 157–59, probationers at St. Thomas’s nursing school; Monica
E. Baly, Florence Nightingale and the Nursing Legacy (L: Croom Helm, 1986) esp. 43, 46,
54. In her emphasis on audition, Nighingale’s response to S. M. degli Angeli, in Lynn
McDonald, ed., Florence Nightingale’s European Travels (Wilfrid Laurier U, 2004) 221, was
resoundingly similar to that of her first visit (1847) to the Sistine Chapel, where she was
particularly impressed by the figure of Isaiah, who “is listening and he is speaking ‘that which we hear, we say unto you.’” She closely identified with Michelangelo’s Delphic Sibyl:
“There is an anxiety, an effort to hear, even, about the Delphian . . . there is no uncertainty
in her feeling of being called...but she fears her earthly ears are ‘heavy’ and gross, and corrupt the meaning of the heavenly words”. Gill, Nightingales, 213. As for the more prosaic acoustics of sick rooms and hospitals: Adams, Architecture in the Family Way (→ n.18) 89–92, on locating sick rooms at the top of a house or in a quiet annex; Hillel Schwartz, “Inner and outer sancta: earplugs and hospitals,” Oxford Handbook of Sound Studies, eds. T. Pinch and K. Bijsterveld (Oxford U, 2011) 357–90.


35. Lutz Koepnick, “Benjamin’s silence,” in Sound Matters: Essays on the Acoustics of German Culture, eds. Nora M. Alter and Lutz Koepnick (NY: Berghahn, 2004) 117–29 at 119; Susan Fenimore Cooper, Rural Hours (Syracuse U, 1968 [1850, rev. 1887]) 29; Rufus Usher, “On the influence of sound,” People’s J 6 (1848) 275–79; Francis Ellingwood Abbott, “Noise and Silence” (a sermon first delivered in 1866), in his Papers, HUG 1101, Box 86, No. 82, Harvard U Archives, Pusey Lib, Harvard U, and quoted with permission of Betsey Abbot Wells Farber, who wonders (note to author, March 29, 2011) whether her great-grandfather’s “feelings about noise could possibly have been influenced by having sons aged two and four at home?”


37. See, e.g., Bernard Beugnot, Le Discours de la retraite au XVIIe siècle: loin du monde et du bruit (P: PUF, 1996); Andrew McRae, God Speed the Plough: The Representation of Agrarian England 1500–1660 (Camb U, 1996) esp. ch. 9 on “Rural Poetics.” Noisy urban nights were as ancient as Julius Caesar’s attempt to reduce traffic congestion by issuing an edict that the wagons of carters (who provisioned Rome and removed waste) could enter the city only between sunset and sunrise, which led to a less congested daytime but a noisier night, an edict often reissued and imitated throughout the Empire: Jérôme Carcopino, Paris et Londres comparées (P, 1830) 172–73; “London street-noises,” Chambers’s J ser. 3,15 (1861) 315–16; Caroline Atkinson, ed., Letters of Susan Hale (B, 1919) 11, 425, 472 on Chicago; Jane Austen, Mansfield Park, ed. Claudia L. Johnson (NY: Norton, 1998 [1814–1816])
Winter, (Camb U, sense of the interminability of noise. Manhattan and Paris. Compression, then, more than acceleration, would have solidified a sense of the interminability of noise.


64 on Congress and San Francisco.


1869) ch. 8 on the “pathology of wakefulness.” The blurb is included in Series II, Box 1, f. 1 of the Papers of George Miller Beard, Dept. of Manuscripts and Archives, Sterling Lib, Yale U. For neurasthenia and perceptions of physical energy: Anson Rabinbach, The Human Motor: Energy, Fatigue, and the Origins of Modernity (NY: Basic, 1990). On neurasthenia as a mediating discourse: Tom Lutz, American Nervousness, 1903 (Cornell U, 1991) q. 19. Given Beard’s criticism of a ferociously time-bound modernity, it was ironic that the most widely used test for degrees of deafness involved hearing the ticking of a watch from some standard distances.


On brass bands, which I must neglect: J Band Research, throughout; Trevor Herbert, ed., The Brass Band Movement in the Nineteenth and Twentieth Centuries (Milton Keynes:


55. Cypress Hills Cemetery, [*Prospectus*] (NY, 1863) and a hymn by Rev. Dr. John C. Lord, in *Forest Lawn Cemetery* (Buffalo, 1855) 44 (“Place for the dead!”), both in the Warshaw Collection, “Cemeteries,” Box 1; Henry Kirke White, “Lines on Recovery from Sickness, Written in Wilford Church-yard,” *The Poetical Works and Remains, with Life by Robert Southey* (NY, 1881) 40–42; Silas Weir Mitchell, “The Quaker Grave-Yard,” *Atlantic Mo* 41 (1878) 217; Bill Arp, *From the Uncivil War to Date, 1861–1903* (Atlanta, 1903) 16 on yellow fever in antebellum Charleston (“all night long the hearses and dead carts were rumbling over the cobblestones, their tires bound in bagging to smother the noise”); Michel Dansel, *Au Père-Lachaise* (P: Fayard, 1973).


The English Sabbath: A Study of Doctrine and Discipline from the Reformation to the Civil War (Camb U, 1988) 115, arguing that precisionists and Anglican leaders agreed on Sunday observance (as evidenced by the stern Sabbath code implemented in non-Puritan Virginia in 1610) until Archbishop Laud declared Sunday a human convention, not a divine institution.


68. Bertram Wyatt-Brown, “Prelude to abolitionism: Sabbatarian politics and the rise


77. Michael Freeman, Victorians and the Prehistoric: Tracks to a Lost World (Yale U, 2004); F. B. Smith, The People’s Health (→ n.48) 13–18, 65–68, 85–87, 114–16, dubious about major changes in English mortality rates before 1900.


81. Alfred Smeee, Instinct and Reason (L, 1850) 32; George S. Tyack, A Book About Bells (Ann Arbor: Gryphon, 1971 [1898]) q. 231 from “Spanish Vistas,” Harper’s Mag (Aug. 1882); “Mr. Bell objects to a bell,” NY Times (May 14, 1882) 10, with editorial, “Church bells” (May 16) 4, and follow-up, “That bell once more” (May 17) 2, and “Investigating a church bell” (May 24) 2. Meneely Bell Company, Catalogue (Troy, 1912) 20, from Warshaw Collection, Bells, 1/22, explains that “The noise, which the action of the clapper upon the bare spring would produce, is obviated by the use of leathers riveted upon the end of its arms.”


86. Ibid., 487–89.


1905); p. 309, C. E. Ridler, “Richard Taylor, curfew ringer,” B Transcript (Nov. 25, 1898). Cf. also E. B. Osborn, “Carillon music,” Living Age, ser. 7,50 (1911) 332–39 at 334, on many bells out of tune “because of the detestable practice [called ‘clocking’] of sounding them by means of ropes tied to the clappers, which causes the same spot to be struck repeatedly and prevents the vibrations spreading freely.” For the McShane Bell Foundry: Chimes and Peals (Baltimore, 1888) 20–21, in the Warshaw Collection, Bells, 1/17. For John Donne: his Devotions upon Emergent Occasions (L., 1623) Meditation XVII: Nunc Lento Sonitu Dicunt, Morieris—“Now, this bell tolling softly for another, says to me: Thou must die.”


of the Sanfilippo Foundation (Barrington Hills, Illin), for my most direct experience of the historical materiality of sound—in the presence (Oct. 25, 2010) of Jasper Sanfilippo’s enormous working collection of 19th and 20th-century theater organs, street organs, barrel organs, mechanical players, phonographs, jukeboxes, sirens, and steam whistles.


“Personal equation,” Berkeley, show that the neurological delay was no artefact of his equipment or of his personal equation, for whom see also François Dagognet, *Etienne-Jules Marey: A Passion for the Trace*, tr. R. Galeta with J. Herman (NY: Zone, 1992) 54, q. 56.


100. James M. Cattell, “The time taken up by cerebral operations, Parts 1 and 2,” *Mind*


103. Hermann Helmholtz, On the Sensations of Tone, 2nd ed., tr. Alexander J. Ellis (NY, 1954, from the 4th German ed. [1877]) q. 2, 5, 150, q. 151, q. 172, 226, 330–39; Peters, “Helmholtz, Edison, and sound history.” Julia Kursell notes how Helmholtz not only detoured all noise processing to an acoustic space in the brain separate from the cochlea, but sidestepped issues of the auditory spatialization of sound: “Thinking with one ear: on the role of music in Hermann von Helmholtz’s epistemological writings,” Conference on


107. Audrey B. Davis and Uta C. Merzbach, Early Auditory Studies: Activities in the Psychology Labs of American Universities (DC: Smithsonian, 1975) 11–19; Boring, Sensation and Perception, 342–44; Herbert N. Casson, The History of the Telephone (Chicago, 1910) 12–13, at www.gutenberg.org/dirs/etext97/thott110.txt and cf. John Brooks, Telephone: The First Hundred Years (NY: Harper and Row, 1975) 44–49. For the record, the 1875 “birth” was not the first time a “complete sound” had been transmitted through wires. Philip Reis and Amos Dolbear had earlier claims, and Asa Gray had sent music through wires for the prior three years. Indeed, had not Bell been illegally furnished with details of Gray’s “caveat” filed with the Patent Office a month before he filed his own telephone patent application, he would not have tried out Gray’s “liquid transmitter” (running the current through a beaker of diluted sulphuric acid) and his urgent cry would have been unintelligible: Lloyd W. Taylor, “Untold story of the telephone,” Amer J Physics 5 (1937) 243–51, repr. in The Telephone: An Historical Anthology (NY: Arno, 1977), along with Watson’s 1915 article, “How Bell invented the telephone,” which does not mention the sulphuric acid, as Bell did not until 1879–1880.


On shorthand and later species of phonography: Lisa Gitelman, Scripts, Grooves, and Writing Machines: Representing Technology in the Edison Era (Stanford U, 1999). Edison himself had less interest in the musical applications of sound recording than in office machines that would solve the acoustic difficulties of shorthand, as emphasized by the Columbia Graphophone Company’s Dictaphone Girl: “I don’t have to risk my life any more by asking him to repeat—you know how Mr. Smith hates to be interrupted. It always makes
him forget what he was going to say and then he goes right up in the air”: advertisement in 100% (July 1914) 55.

For a popular account of singing flames: W. F. Barrett, “Sympathetic vibration,” Good Words 32 (1891) 41–46, esp. 45: “If we hiss, or tear a piece of paper, or rattle a bunch of keys, or shake a few coins in our hand, even at a distance of thirty or forty feet, the flame will instantly respond, bobbing and curtseying at the slightest noise.” Barrett extended the principle to “Psychical research,” ibid., 467–71, recognizing as he did, p. 42, the “important part which other forms of sympathetic vibration may play in the phenomena of the universe, and in the transference of terrestrial and cosmic energy.”


114. Editorial, “Some remarks about the telephone,” Amer Telephone J 10 (1904) 234; Fischer, America Calling, 70 for Canadian notice; Edouard Gélineau, Hygiène de l’oreille et des sourds (P, 1897) 101–102, citing Dr. Marie-Ernest Gellé on “la maladie du téléphone.”


119. Asa Greene, *A Glance at New York* (1937) in *A Mirror for Americans: I. Life in the East* (Chicago, 1932) 179–81; Chester Wilkes, letter to Mayor of Boston, Dec. 3, 1857, in Wilkes Family Corresp, Rare Book, Manuscript, and Special Coll Lib, Duke U; John F. Hennard, Journal of the St. Louis Fire Alarm Telegraph Company, 1 vol. (mss A0681), Feb. 27, 1858 and March 2, 1858, at Missouri Historical Museum Archives, St. Louis; Costello, *Our Firemen*, 879; Gamble, *Practical Treatise*, 246–47; Frank C. Mason, “[President’s notices],” *Proc Sixth Annual Convention of the Intl Assn of Municipal Electricians* (Corning, 1901) 72, Tyndale; Adam Bosch, “The limitations of the telephone for fire alarm purposes,” *Proc Ninth Annual Convention . . .* (Corning, 1904) 16–24, preferring telegraphic signals to telephonic words for fire alarms, since excited voices are confusing when street names are homophonous (e.g., Henry, Hendrie), and operators may take odd-sounding shouting as crank calls or false alarms.


123. Health Specialist Sproule of Boston, letters of April 26, 1911 and May 18, 1911, in the Meriwether Jones Corresp, Rare Book, Manuscript and Special Collections Library, Duke U; Jacques Boyer, “Head noises and how one scientist studies them: Dr. Marage’s the Meriwether Jones Corresp, Rare Book, Manuscript and Special Collections Library, 5 trtridge,

124. Theophilus[?] B. Hyslop, Mental Physiology, Especially in its Relations to Mental Disorders (L, 1895) 100, 215, 236, q. 240, 273, q. 275. Hyslop also read a paper on “Noise In Its Sanitary Aspect” to the British Sanitary Inspectors’ Association, but I have not been able to locate this. Cf. David Toop, Sinister Resonance: The Mediumship of the Listener (NY: Continuum, 2010) pt. III.


128. Crary, Suspensions of Perception, q. 16 Külpe; James Mark Baldwin, “Fluctuations


State U, 1979) 74, q. 79, q. 235; Regula B. Quereshi, ed., Music and Marx (NY: Routledge, 2002). Conditioning by bells could also occur in schools where students were governed by bells for class, prayer, meals, and dismissal: Walter F. Peterson, “Student life and thought in 1851,” Historical Messenger [Milwaukee County H Soc] 21,3 (1965) 76–78.


For ear abuse: Warren Burton, The District School As It Was by One Who Went to It, rev. ed. (B, 1850) 43, 66 (ears twisted, pinched, boxed, and snapped with rubber by teachers demanding quiet). Consider also Greg Milner, Perfecting Sound Forever: An Aural History of Recorded Music (NY: Faber and Faber, 2009) 4–6, 11, 39–49 on Edison tone tests and his own skewed hearing; Mark Katz, Capturing Sound: How Technology Has Changed Music (UC, 2004) ch. 4, how early recording technologies, and the associated noise, affected performance and composition, including a preference for violin vibrato, which also lay behind the success of the first black recording artist, George W. Johnson, whose “low-pitched and fruity” whistling was featured in many of his early records: Tim Brooks, Lost Sounds: Blacks and the Birth of the American Recording Industry, 1890–1919 (U Illinois, 2004) q. 16, 26–48. As for the noise of the elevated trains, this was considerably reduced when the Metropolitan Railway bought the rights to an invention by Mary E. Walton of 63 W. 12th Street, U.S. Patent 327,422 (Feb. 8, 1881): “Lessening the Sixth Avenue noise,” NY Daily Trib (Jan. 18, 1879) 3:1.

ear may also harm the temporal pole, a part of the brain located just below the ears and charged with encoding semantic meaning; Elli Leadbeater, “Strange ducks shape brain science,” BBC News (Sept. 6, 2006) at http://news.bbc.co.uk/go/pr/fr/-/2/hi/science/nature/5321054.stm.


the Building of American Work Safety, 1870–1939 (Johns Hopkins U, 1997), but his book was inspired (p. xviii) by a great-aunt and a friend who both worked in woolen mills and became almost completely deaf as a result.


143–64; Anna G. Richardson, “Telephone operating: a study of its medical aspects with statistics of sickness disability reports,” J Industrial Hygiene 1 (1919) 54–68; D. J. Glibert, tr. S. A. Henry, “L’influence des bruits industriels” (1914), ibid. 3 (1921–1922) 264–75. For more on German telephone operators: Killen, Berlin Electropolis, ch. 5.


165. Albert H. Beck, “Goutiness in its relations to diseases of the ear,” *Med Record* (May


169. Jørgen Falbe-Hansen, tr. Hans Andersen, Clinical and Experimental Histological Studies on Effects of Salicylate and Quinine on the Ear (Copenhagen, 1941); Charles H.


287–92 amalgam fillings, 34.4 cocaine, and 299–310 for the history of the dental drill and its electrification.


184. James Galloway et al., for the Ministry of National Service, Report upon the Physical Examination of Men of Military Age by National Service Medical Boards from November
high-frequency hearing loss is more common among diabetics. From Kansas Farm Boy to Scientist (U Kansas, 2005). With declining rates of infanticide and more charitable funds devoted to educating the deaf, the percentage of the congenitally deaf who lived to adulthood was also rising. 187. With declining rates of infanticide and more charitable funds devoted to educating the deaf, the percentage of the congenitally deaf who lived to adulthood was also rising. For 19th-century ratios of “deaf and dumb” individuals to national populations (highest


189. U.S. War Department, *Scheme for History and Examination of Mental Cases*, Circular no. 12 (DC, 1913) 6.

191. Peiss, *Cheap Amusements* (→ n.48); “A mechanical duel with disastrous results,” *Boilermakers* 8 (1896) 303.


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item/5031 an article in the Toronto World (April 17, 1912) discusses what was heard, what was heard badly, and what was not heard at all by way of wireless messages from the Titanic just before and during the disaster, and cf. Jeffrey Sconce, Haunted Media: Electronic Presence from Telegraphy to Television (Duke U, 2000) 72–74.

196. Davie, Titanic, 28, on its near-miss (by four feet) of the Saratoga/New York, which we last heard with its gun salutes at the Kiel Canal in 1895, and was the flagship of the U.S. fleet at Santiago during the Spanish-American War; Stephen Bottomore, The Titanic and Silent Cinema (Hastings: Projection Box, 2000) 50–68 on slideshows, 85–89 on Olympic substitutions and actual Titanic footage, 109–13 on Gibson, and throughout.


bomba, rombo, boato, bonaito, mugghio, baturlio, tromba.


221. Ibid., 10–13, 19, 23, but noting, 197, that Helmholtz’s energy principle, on which Hertz relied until 1883, was irreconcilable with field theory; cf. Charles Susskind, Heinrich Hertz: A Short Life (San Francisco: San Francisco Press, 1995) 57–58. On Faraday: Bruce J. Hunt, The Maxwellians (Cornell U, 1991) 11. Technically, dielectrics are substances so weakly conductive that they may be used as insulators; as Amos E. Dolbear explained in Matter, Ether, and Motion, ed. A. Lodge (L, 1899 [1892/1894]) 190, “The term non-conductor came into use before the refined methods now in use for measuring conductivity were known. It is now believed that the only non-conductor of electricity is the ether.” Dolbear invented the first telephone receiver with a permanent magnet (1865) and held an 1882 patent on a wireless telegraph that worked through electrical induction, as did Loomis’s.


224. As above, and Buchwald, Creation of Scientific Effects, 287–88 on the “disturbingly loud” noise of Ruhmkorff coils, q. 320 on the energy field; Susskind, Heinrich Hertz, 120–32.


234. Oppenheim, The Other World (→ n.212) ch.5; Annie Besant and C. W. Leadbeater,


immune to the troublesome fact of bodily presence": Peters, “Helmholtz, Edison, and sound history” (→ n.97). For more on inscription: Gitelman, Scripts, Grooves (→ n.109). Richard Caton in 1875 found that the brain was also abuzz with electrical activity, but the currents were so weak that human “brainwave” recordings were not published until Hans Berger perfected his electroencephalogram in 1929: Mary A. B. Brazier, A History of the Electrical Activity of the Brain; The First Half-Century (NY, 1961).


252. Holley, “Blacktop”; David V. Herlihy, Bicycles: The History (Yale U, 2004), esp. 141, 216, 235, 444–54, q. 258, 266, 280, 298, 310, 316; Nordau, The Drones Must Die (→ n. 236) 298–99 on women becoming louder, more obstreperous when accustomed to bicycling; Elmer S. Batterson, “Progress of the anti-noise movement,” Natl Municipal R 6 (May 1917) 376; McShane, “Transforming the use of urban space,” 280, table 1, and idem, Technology and Reform: Street Railways and the Growth of Milwaukee (Madison: State H Soc, 1975) 4–5 on paving for trolleys; Frederick Dalgell, Engineering Invention: Frank J. Sprague and the U.S. Electrical Industry (MIT, 2010) on the electric trolley systems, electric elevators, and elevated trains; Robert C. Post, Urban Mass Transit: The Life Story of a Technology (Yale Hopkins U, 2007) ch. 2; Gijs Mom, The Electric Vehicle: Technology and Expectation in the Automobile Age (Yale Hopkins U, 2005) esp. 84 on problems with pavement; Sam Alewitz, Filthy Dirty: A Social History of Unsanitary Philadelphia in the Late Nineteenth Century (NY: Garland, 1989) 96–103; if, as Charles Babbage determined in his On the Economy of Machinery and Manufactures (L, 1832) 243–44, horses’ hooves were more damaging to pavement than cart wheels, pavement was also damaging to horses, who fared poorly on city streets: Joel Tarr, The Search for the Ultimate Sin: Urban Pollution in Historical Perspective


261. Academy of Ophthalmology and Otolaryngology, Council Minutes 1903, p. 23. Petition on Street Cars, resolving “that Street Railway Companies should be encouraged by public sentiment to introduce noiseless wheels and other appliances [e.g., rubber stops, window frame batting] to overcome the horrible noise which is so characteristic of many of the systems,” in vertical file, “Street Cars,” Archives of the John Q. Adams Center for the History of Otolaryngology—Head and Neck Surgery, Alexandria, Virginia; Annie Besant and C. W. Leadbeater, Man: Whence, How and Whither (Adyar, 1913) 439; Ruth Schwartz Cowan, “Coal stoves and clean sinks: housework between 1890 and 1930,” in American Home Life (→n.245) 211–24; W.R. Collier, “Atlanta, the smokeless city,” City Builder 1,2 (April 1916) 10,16 on gas ranges; advertisement for White Closed Cars, NY Times (Oct. 18, 1908) III,4; Stradling, Smokestacks and Progressives, 50–52; Mothers Club of Cambridge, Papers 1881–1942, Box 1, Records of Meetings, v.6 (March 10, May 19, and Dec. 15, 1909), Arthur and Elizabeth Schlesinger Lib on the History of Women in America, Radcliffe Institute, Harvard U.


266. Richardson Evans, “Preface,” in SCAPA: A Record of Work and Thought Intended to Serve as a Handbook for the Use of Members and Others Interested (L, 1909) q. 3, q. 7, q. 8, q. 12, 22, and his The Age of Disfigurement (L, 1893) esp. 17 and q. 6, legal recourses “if a small boy shouts into my ear every two minutes,” none for “assault and battery on my eyes”; Beautiful World 1,3 (June 1894) 106. For the rest: C. T. Abdy Williams, “The grievance of unnecessary noise,” ibid. 2,5 (Dec. 1895) 31–32, with editorial comment, 33–34; [Alfred] Waterhouse, “Address,” ibid. 3,6 (Dec. 1896) 14, 20.


272. Indeed, the OED Online acknowledges neither “visual noise” nor “optical noise,” although both phrases had appeared by the 1930s. And the process of making audible that which is first or chiefly present to another sense (in parallel to the process of “visualization” tracked by historians of science and medicine across the 19th century), has only recently acquired a name that is likely to stick: Michael Vorländer, Auralization: Fundamentals of Acoustics, Modelling, Simulation, Algorithms, and Acoustic Virtual Reality (Berlin: Springer, 2008).

274. Evans, Age of Disfigurement, 31. 43; idem, “Advertising as a trespass on the public,” Nineteenth Century 37 (June 1895) 968–80.


288. [International Committee of the YMCA], Messages of the Men and Religion Movement (NY, 1912) II, 35, 39, 40, parts quoted by Colleen McDannell, “Parlor piety: the home as sacred space in Protestant America,” American Home Life (→ n.246) 162–89, q. 175; OED s.v. “shock”; Kathleen Franz, Tinkering: Consumers Reinvent the Early Automobile (U Penn, 2005) 4–6 on the open road, 56; Theodore Dreiser, Jennie Gerhardt (Cleveland,
1946 [1911]) q. 107, 128–30, q. 132; W. A. Swanberg, Dreiser (NY: Scribner’s, 1965) esp. 48, 96–100, 141–51.

289. William D. Orcutt, Wallace Clement Sabine: A Study in Achievement (Norwood, 1933) 7–19, 22, 26, 28, 35, 39, 44, 73 on his reputation as a “silent man”; Wilbur H. Siebert, The Underground Railroad from Slavery to Freedom (NY, 1899); idem, The Mysteries of Ohio’s Underground Railroads (Columbus, Ohio, 1951); W. C. Sabine, A Student’s Manual of a Laboratory Course in Physical Measurements (B, 1893) q. 1, 2, q. 4.


298. Ibid., 52–60. For a later review: Cyril M. Harris and Charles T. Molloy, “The theory of sound absorptive materials,” JASA 24 (Jan. 1952) 1–7, noting that theory half a
century later was still weak with regard to non-homogeneous and non-isotropic materials.


300. Orcutt, Wallace Clement Sabine, 70; Thompson, Soundscape of Modernity, 18–33; Sabine, “Acoustics,” 15; OED s.v. “volume.” I thank Stefan Helmreich here for suggesting that I consider the peculiarity of the phrase, “turning up the volume.”


halls,” 195–98. What is still needed is an historical analysis of the transformations of architectural acoustics in the context of changes in symphonic repertoires and notions of the self as a listening body; one can begin here with Michael P. Steinberg, Listening to Reason: Culture, Subjectivity, and Nineteenth-Century Music (Princeton U, 2004).


1895), the editors cite Nordau, who “condemns us in the gross as a degenerate and neurotic race, ill-fitted for the hard work of the world,” then argue that, neurotic as we are, we must still do the world’s work, so we all deserve a good night’s rest.


A (the?) dominant chord in this era in Germany was that of Heimat or home/land, played upon by Lessing and put in historical-environmental context by David Blackbourn, “‘The garden of our hearts’: landscape, nature, and local identity in the German East,” in Localism, Landscape and the Ambiguities of Place: German-Speaking Central Europe, 1860–1930 (U Toronto, 2007) 149–64, as also by Thomas Lekan, “The nature of home: landscape preservation and local identities,” 165–94. Contrast Martin Jay, Downcast Eyes: The Denigration of Vision in Twentieth-Century Thought (UC, 1993).


Carriagemakers since the 1870s had been promoting the quietness of their better vehicles (“On ordinary roads one goes silent and even, as if carried in the air on steady wing”; Edwin Cross, M.D., in 1884, Testimonials for the W.R. Church Company of Illinois), and some offered to put on solid rubber tires for their durability, “to say nothing of the increased pleasure gained in riding, owing to their noiselessness and ease”: H. H. Babcock Co., Fine Carriages (Watertown, NY, 1903) 84. But the “incessant shrill, irregular rattle of the iron-shod wheels of [horsedrawn] lorries and carts upon the granite setts” continued into the 1920s: Geoffrey Lapage, “Noise,” Chambers’s J, 7th ser., 13 (1923) 772–75, q. 773.

318. William Dean Howells, “Editor’s easy chair,” Harper’s Mo Mag 113 (Nov. 1906) 957–60. On the “grinding” around curves caused by the gradual flattening out of the metal tires of trolleys, consider the promise of the Robinson Radial Car Truck Company of Boston (1890, “Street Cars” file, Box 1, Warshaw Collection) to “entirely obviate” this problem, which was still formidable when I was riding trolleys in Chicago in the 1950s.


323. B Herald article repr., “London’s many noises,” Sanitarian 39 (1897) 44–49; Der


noise”: *Daily Republican* [Decatur, Illin] (Oct. 1, 1872) 1, reprinting a letter from Charles Bernard (of Harvard’s Cercle français?) in the *Phila Ledger*.

330. Edward S. Morse, *Can City Life Be Made Endurable* (from *J Polytechnic Inst* of Nov. 1900) q. 4, q. 5, q. 6, q. 16; idem, *The Steam Whistle: A Menace to Public Health* (B, 1905) 1, 2, 3, 5, 7, 12. In his intro. to Henry M. Brooks, *Olden-Time Music* (B, 1888) xii–xiii, Morse had written that “while the progress of music was thwarted in this country by the early Church, we are indebted to Catholic Italy through the itinerant organ-grinder, and rational Germany through her political refugees, for much of the musical progress made in recent years.” Morse may have become increasingly vocal about noise in reaction to the contentious ethno-political scene in Salem: Theodore N. Ferdinand, “Politics, the police, and arresting policies in Salem, Massachusetts, since the Civil War,” *Social Problems* 20 (1972) 572–88.

331. Morse, *The Steam Whistle*, q. 3 Platt. All other quotations in this paragraph come from newsclips and handwritten notes, often undated or poorly sourced, in the Edward Sylvester Morse Papers, 1858–1925, used by permission of the Phillips Library at the Peabody Essex Museum, Salem, Mass (henceforth, Morse Papers): Box 87, f. 2/22, *City and State* (Phila, July 19, 1900) on Chicago; Box 87, f. 5, “The nuisance of steam whistles,” *The Outlook* (Nov. 28, 1903) 724–25, number of blasts; Box 88, f. 1, “Noise in China,” unsourced clip with credit line to *North China Herald*; Box 88, f. 1, small unsourced clip on Pompeii; Box 88, f. 1/24, “Berlin a German city of forbidden noises,” unsourced; Box 88, f. 1/26B, “An improvement society,” *B Courier* (July 17, 1893); Box 88, f. 1/30, “Opposite the Old South,” ibid. (July 24, 1892); Box 88, f. 3/30, “The crime of noise,” *B Herald* (Sept. 23, 1896) 6; Box 88, f. 3/36, “Aldermen demand police begin war on useless noises,” unsourced clip on Chicago; Box 88, f. 3/47, “The nation of noises,” *NY Trib* (undated); Box 88, f. 5, handcopied notes on Walter B. Platt, “Injurious influences of city life,” *Pop Sci Mo* (Aug. 1888), and also for City of Salem, *Annual Report of the Board of Health to the City Council, December 1898* (Salem, 1899) 6. Some clips in this collection were sent to Morse by Julia Rice through her service, the Argus Press Clipping Bureau, and so stamped; others were clipped by Morse; for many it is not clear who did the clipping. In any case, the clips document Morse’s awareness of the range of responses, and responsiveness, to noise issues.


333. Morse Papers: Box 88, f. 2, “Orators disturb Relief Hospital,” *B Herald* (Sept. 8, 1903) 5; Box 88, f. 2/19, *B Transcript* (July 23, 1900); Box 88, f. 2/18, suit against peanut stand whistle by an officer of the Museum of Fine Arts, 1901; Box 88, f. 4/2, handwritten notes on peanut vendors.

not seen, as the only extant copy has been misplaced by the Lib of Congress. Nor can I confidently identify the author: was he the Michigan lawyer who co-authored A Treatise on the Law of Real Property [1900], the Florida pastor who had been at Riverside Church in the late 1880s, or another? Cf. Box 88, f. 3, “The noises of New York: Manhattan is not for the nervous and invalid,” NY Post (Oct. 30, 1906).


341. By Girdner: Newyorkitis, 7; “To abate the plague of city noises,” North Amer R 165 (1897) 460–68; “Theology and insanity,” ibid. 168 (1899) 77–8, q. 83; (with Alvah H. Doty and C. M. Drake), “The national government and the public health,” ibid. 165 (Dec. 1897) 733–41; “The ounce of prevention,” Junior Munsey’s Mag 25 (April 1901) 49; and a wide range of articles (1899–1909) in Munsey’s Mag, including “Disease germs, and how to avoid some of them” (March 1899); “The war against consumption” (March 1900); “Noise and health” (June 1901); “Man and his clothes” (June 1902). On Girdner’s involvement with Bryan and then Watson: “Cleveland’s comments on Bryan’s attitude,” NY Times (Jan. 26, 1904) 1; “Girdner visits Parker after Colorado talk,” ibid. (Sept. 30, 1904) 1; “Journalistic notes,” Publisher’s Weekly 1719 (Jan. 7, 1905) 13, Girdner one of those financing the start-up of Tom Watson’s Mag; “Jeffersonian Publishing Company,” New Georgia Ency, ed. John C. Inscoe, at www.georgiaencyclopedia.org/nge/Article.jsp?id=h-2996; C. Vann Woodward, Tom Watson: Agrarian Rebel (Oxford U, 1963) 381. See also “In favor of a


built model tenements to house Russian Jews: Horace L. Friess, *Felix Adler and Ethical Culture: Memories and Studies*, ed. Fannie Weingartner (Columbia U, 1981) 75, 102. As Day points out, however (p. 23), model tenements tended to fail as economic and demographic pressures increased; by 1895, New York had 40,000 tenements housing 1,300,000 people, 95 percent of whom were immigrants and their children.


352. “Rice, Mrs. Isaac L.,” *Natl Cyclopaedia of Amer Biog* 14 (1910) 508–509, q. 509; Isaac L. Rice, “Spring Gave Me a Friend” in “3 Songs” (NY, 1881), in *Music for the Nation*


358. Mom, *The Electric Vehicle*, 101 for *Electric R* (1902), and cf. 128, *La Vie automobile* (1909) on the barbarous gas engine, whose defects could be seen, felt, smelled, and heard,


“Ex-Submarine Boat director supports Rice Committee,” ibid. (March 31, 1922) 3; “Rice stockholders lose,” NY Times (April 20, 1922) 32.

361. “Marconi system here,” NY Times (Nov. 24, 1899) 8; “Marconi wireless telegraphy,” Wall Street J (Nov. 27, 1899) 6; “A Marconi Wireless Telegraph Company for America,” Electrical World and Engineer (Dec. 2, 1899) 870–71; “Dorothy Rice—a contradiction,” NY Herald (May 8, 1910) Mag sect., 10 on Isaac L. Rice, Jr.; Sims, Curiouser and Curiouser, 46–47; “We lead submarine ideas,” NY Times (July 30, 1907) 4. The company was berthed in New Jersey, as were many of Rice’s enterprises, because an 1889 law enabled a new corporate instrument, the holding company, to operate effectively from New Jersey shores, owning, managing, and capitalizing companies in other states: Maury Klein, The Genesis of Industrial America, 1870–1920 (Camb U, 2007) 127.


1830–1840


370. Sims, *Curiouser and Curiouser*, 60, 63 on the family’s servants, none of whom seemed to have complained, but see “Gems lost, girl in river. Police scare Mrs. Rice’s maid, who was not suspected,” *NY Times* (March 1, 1906) 1; “Mr. Murphy needed in anti-noise war,” ibid. (June 9, 1907) 6; Robinson, *Improvement of Towns and Cities* (→ n.247) 73. On public transport: Calvin Tompkins et al., City Planning Committee, “Report on the Passenger Transportation System of New York,” *Bull Municipal Art Soc of New York* 3 (1903) On the rent strikes and the Socialist Anti-rent Agitation Bureau: Day, *Urban Castles* (→ n.348) 76–79. For another perspective: Thompson, *Soundscape of Modernity* (→ n.293) 120–22. Much more research is needed on the relationship of African-American communities to anti-noise movements and noise nuisance prosecutions; the Rice’s friend Edwin R. A. Seligman was the first chair of the National League on Urban Conditions among Negroes (1911–1913), and among the founding members of the National Association for
the Advancement of Colored People in 1909, as were a number of other New York German Jews in whose circle Isaac and Julia Rice moved: William Stueck, “Progressivism and the Negro: White Liberals and the early NAACP,” Historian 38 (Nov. 1975) 58–76. The “Urban Noise Counselor Program” initiated by the National Urban League in 1982 (Box III, f. 318 of the League’s Papers, Division of Manuscripts, Lib of Congress) was preceded by earlier efforts to deal with noise in the urban black environment, beginning perhaps in Baltimore.


I, 2211–55, q. 2235, q. 2240, and note just above. For Oakley’s noise committee: Civic Club of Philadelphia, Annual Report 13 (1907) q. 14; 14 (1908) 5, 27; 15 (1909) 37–38; 19 (1913) 70–71; 22 (1916) 33; 23 (1917) 42. In 1919, risen to chair the Committee on Noise Nuisance of the American Civic Association, Oakley was still referring to the complaints of temperament women: “Do noises make us ill? The ‘yelling peril’ one of the greatest we have,” Ladies’ Home J 36 (Sept. 1919) 63. Mary R. Beard, Woman’s Work in Municipalities (NY: Arno, 1972 [1915]) 93–95, acknowledged the anti-noise work of Edward Abbott and Julia Rice but was most encouraged that many women, realizing “that the anti-noise movement must not be purely a middle-class movement,” had acted on behalf of workers to reduce “prolonged hours of work amid the whir of factory machinery”; she cited Louis Dembitz Brandeis and Josephine Goldmark, Women in Industry (NY: Arno, 1969 [1908]). On unions: Sharon Smith, Subterranean Fire: A History of Working-Class Radicalism in the United States (Chicago: Haymarket, 2006) 67 and throughout.


ibid. (July 2, 1901) 6; “Plenty of laws to stop noises if they were only enforced,” ibid. (Oct. 27, 1901) 20, and many earlier articles, e.g., “Noises in Brooklyn” (May 21, 1896) 14; Tired, “Unnecessary noises: one step further in the crusade against them” (April 27, 1897) 6; “Morning noise must stop: Health Department serves notice upon the Horton Ice Cream Co.” (July 30, 1897) 1, milk trucks and ice wagons; H. C. F., “Useless noise of the city” (Aug. 9, 1897) 9, ragmen’s cowbells; “Auto-trucks and wagons” (Jan. 17, 1899) 4; “Crusade against noises” (July 28, 1900) 14; A Resident of Brooklyn, “Catalogue of noises” (July 29, 1900) 2; “Noises of the city: surpassed by a steam apparatus for riveting boilers” (July 25, 1902) 2, all available online at www.brooklynpubliclibrary.org/eagle.

On Isaac Rice and the Brooklyn El: “Reviving the Bruff road,” NY Times (Jan. 5, 1884) 8.


379. Rice, The Public-School System, q. 6, 20, 21–22, q. 23, q. 26, and 37 (“Even a good part of a lesson in music is devoted to drilling the children in definitions”); idem, “The


381. Mrs. Isaac L. Rice, “An effort to suppress noise,” *The Forum* 37 (April 1906) 552–70, q. 552; “What one public-spirited woman can do—Mrs. Isaac L. Rice’s campaign,” *NY Times Mag* (Jan. 14, 1906); “Mrs. Isaac L. Rice,” *The Part Taken by Women in American History*, eds. John A. Logan and Mary S. C. Logan (NY: Arno, 1982 [1912]), 602–603, which also reports what Julia wanted her audiences to believe, that until her anti-noise work, she “had hitherto been unaccustomed to any public effort, having lived a quiet, domestic, home life.” At a meeting of the Massachusetts Boards of Health, reported in *Amer J Public Hygiene* 15 (1905) 299–300, Morse had repeated his reference to the Pompei poster in yet another talk on noise, followed by Philip C. Knapp, “The effect of noise upon weak and nervous people,” pp. 301–304, and James J. Putnam, “Some considerations concerning city noises,” pp. 304–10, with commentary by Prof. W.T. Sedgwick, Dr. Samuel H. Durgin, and Dr. Agnes C. Victor. Noting that a suit to limit the noise of a circular saw had failed in state court, and bemoaning the din of Boston streets, Durgin was “intensely interested to learn who is responsible for stopping the noise. I hope that it is the State of Board of Health.” Julia might have anticipated the bureaucratic problem of purview in anti-noise reform and exploited a domestic “lone womanness” to her advantage.

White on rowdyism; “Whistling not yet suppressed,” ibid. (Jan. 26, 1906) 8. Whistling by humans was also being suppressed at this time by monitors of public manners, despite a long tradition of whistling performers that continued on in early phonograph recordings and vaudeville. Cf. Carl Engel’s survey of whistling in his *Musical Myths and Facts* (L, 1876) I, 90–92; Mutoscope postcard, “Whistler’s Diploma” (1907?) granting permission to recipient to “WHISTLE whenever he so desires . . . blowing double notes during a conversation, and ABOVE ALL be the ‘life of the party,’ by getting up and whistling loudly and shrilly as often as possible,” in TOP 35—“Sayings,” John R. and Jane Adams Postcard Collection, Special Collections, Malcolm A. Love Library, San Diego State U.


393. For details of one such proceeding: “Two skippers up for loud tooting,” *NY Times*


On the house sale: “The Rice Mansion sold for $600,000,” NY Times (Dec. 18, 1907) 5; Sims, Curiouser and Curiouser, q. 64–65, 70.

On the Congressional hearings: Select Committee, Hearings Beginning March 9, 1908—April 30, 1908 (→ n.355), based on charges by George H. Lilley, who opposed the submarine “monopoly” and spoke on behalf of Rice’s chief competitor, Simon Lake; “House flays Lilley for boat scandal; Williams denounces Representative as guilty of treason and advocates his expulsion,” ibid. (May 21, 1908) 3; “Lilley, George L., “ Natl Cyclopaedia of Amer Biog (NY, 1910) Suppl I, 474–75.


399. On the motorcycle incident: “Rice children arrested,” NY Sun (Nov. 19, 1907); Sims, Curiouser and Curiouser, 8–9; “Motor cycling fad strikes fair sex,” NY Times (Jan. 15, 1911) C5, Dorothy the first girl in New York to ride a motorcycle. On city efforts: “Bide-A-Wee home ordered to move,” NY Times (May 27, 1908) 16; “Opens war on noises, asks Bingham’s aid,” ibid. (June 27, 1908) 4; “Putting noise lid down,” ibid. (July 21, 1908) 1;


in the Willows: “To all of us journeymen in this great whirling London mill, it happens sooner or later that the clatter and roar of its ceaseless wheels—a thing at first portentous, terrifying, nay, not to be endured—becomes a part of our nature, with our clothes and our acquaintances; till at last the racket and din of a competitive striving humanity not only cease to impinge on the sense, but induce a certain callosity in the organ, while that most sensitive inner ear of ours...from lack of exercise drops back to the rudimentary stage.” To Grahame, such a deafness disables our hearing “the real facts of sound” in the natural world, which are of so amazing a vitality that, once heard, we would realize how “entirely superfluous” humans are to the whole enterprise: “The inner ear,” The Yellow Book 5 (April 1895) 73–76.


411. Brush, Growing Up with Southern Illinois, 204; Hannah C. Hicks, File 2, Diaries, January 1, 1863–1866, entries for Feb. 14, 1863, July 4, 1863, and April 19, 1865, in Safe,
414. “Fourth of July,” Brooklyn Daily Eagle (June 21, 1877) 2; “Observing the Fourth,” NY Daily Trib (July 5, 1878) 1; Davis, “Sis! Boom!! Ah-h-h,” 4 for Adams; Will Carleton, “The Burning of Chicago,” Farm Legends (NY, 1878) 118; Murray F. Tulley, comp., Laws and Ordinances (Chicago, 1873) ch. 41.6; Chicago City Council, Proceedings (Chicago, 1882) 27 for June 6, 1881, amending ch. XV, par. 1974; Samuel A. Ettelson, comp., Chicago Municipal Code (1927) ch. XXXVII, pars. 1722–26 and ch. I., pars. 2649–54; “A patriot’s lament,” Chicago Daily Trib (June 23, 1878) 8; Dr. Willis O. Nance, “The noise problem in Chicago,” City Club Bull 6, 11 (July 23, 1913) 4 for vetoed ordinance of 1884; “Anti-Fourth noise,” Brooklyn Daily Eagle (June 15, 1904) 9, Amusement Association; Rosenzweig, Eight Hours for What We Will (→ n. 49) 156–57; “Havoc of the Fourth,” Chicago Trib (July 5, 1899) 1, as well as “Chicago’s July 4 plans” (July 2, 1899) 5, 8, 11, and “Fourth of July is here. Chicago surrenders to patriotism, pleasure, and din” (July 4, 1899) 1; “Plan crusade to stop noise” (Sept. 5, 1899) 1; “Latest Fourth is most bloody” (July 5, 1903) 1; “Celebration is a noisy one” (July 5, 1903) 2 on the caps; “Will give away fireworks,” NY Times (April 19, 1904) 1; “Small boys and fireworks,” ibid. (June 10, 1904) 2; “25 die; 1,977 hurt in celebrations,” Chicago Trib (July 5, 1904) 1; “Fourth of July death list grows,” ibid. (July 6, 1904) 7; Smilor, “Confronting the Industrial Environment” (→ n. 388) 165–69 on lockjaw, or tetanus.

On the anti-noise campaign of Dr. Jones: “Chicago to attempt to control street noises,” Amer Architect and Building News 65 (Sept. 30, 1899) 105; Editorial, “Let us have quiet,” Chicago Trib (July 2, 1899) 34, as also “Bars noise from house” (May 26, 1900) 9, “To open anti-noise crusade” (April 21, 1900) 9, “Ban on street noises” (May 22, 1900) 1; “Ask relief from noises” (May 24, 1900) 2, “Fined for making noise” (May 29, 1900) 9, and “Barred noise list is drawn” (July 4, 1900) 13; Editorial, “If the making of unnecessary noise . . .,” The Public no. 119 (July 14, 1900) 1, mayor’s preferences.


For later anti-noise campaigns (and anti-anti-noise protests) of 1911–1913 in Chicago: Vaillant, “Peddling noise” (→ n. 349); “Racked by noise,” Chicago Trib (July 4, 1911) 10, and also Nance near top of this note. Cf. “Mrs. Rice seeks noise and finds it, plenty of it, on the East Side—suggests a remedy,” NY Times (Nov. 7, 1908) 14 for Julia’s approach to street peddlers.


416. Zelizer, Pricing the Priceless Child, 32ff., q. 70–71 Adler, 76; Postcard, Topical-40, Fourth of July, “Photograph your boy,” in series with one postmarked 1909, a young girl running from a lit firecracker (“The giant cracker is a big red brute / With a tail that’s like a snake / You can easily tell when they’re about / By the awful noise they make”) in Adams Postcard Collection, Special Collections, Malcolm A. Love Lib, San Diego State U; Rosenzweig, Eight Hours for What We Will (→ n. 49) 157 for Southwick; Hubert, “For the suppression of city noises” (→ n. 377) 634, and cf. “Fireworks in plenty: large supply on the market and the prices are low,” NY Times (June 14, 1895) 9, imports from China; Norton, Letters of Charles Eliot Norton (→ n. 291) II, 344; Morse, Can City Life Be Made Endurable? (→ n. 330) 14. Cf. Nan Goodman, Shifting the Blame: Literature, Law, and the Theory of Accidents in Nineteenth-Century America (Princeton U, 1998).


418. “Rice, Mrs. Isaac L.,” Natl Cyclopaedia of Amer Biog (1910) XIV, 508; “Don’t celebrate near hospitals,” as above, and “Remember the sick on firecracker day,” NY Times (June 21, 1908) 16; “Pleased by sane Fourth,” ibid. (July 10, 1913) 16 for Gaynor; Sane Fourth of July Association of Chicago, Reports of the Officers . . . concerning the Historical Pageant and Army Tournament of July 4th, 1910 (Chicago, 1910); “Taft makes plea for sane Fourth,” Chicago Trib (July 4, 1911) 6; “The woman who reformed the Fourth,” The Pictorial R (July 1910) 22 in Morse Papers, Box 87, f. 5, as also George Fitch, “Vest Pocket Essays: Noise,” B Herald (undated clip), Box 88, f. 2/66. To follow Chicago’s reformed Fourths: “For a sane Fourth,” Chicago Daily Trib (July 3, 1908) 10, as also “Hail 4th of July in riot of noise” (July 4, 1908) 7, “Sane Fourth meeting today” (July 1, 1909) 6, “Speakers plead for sane Fourth” (July 2, 1909) 5. For cartoons: “The Picnic” and “Young America’s Way,” illustrations to “How to Spend the Fourth,” Harper’s Weekly 1 (July 4, 1857) 424–25; E. A. Abbey, “The Glorious Fourth—The First Gun—Time, 5 a.m.,” ibid. 15 (July 8, 1871) 625; Homer Winslow, “Fourth of July Scene, on Boston Common,” Ballou’s Pictorial Drawing Room Companion (July 9, 1859); John W. Grove Co., “Wishing you a glorious Fourth

419. Julia Barnett Rice, letter of July 21, 1908 to Robert Underwood Johnson, in Box 83, Century Company Records, Manuscripts and Archives Division, NY Public Library; Rice, For a Safe and Sane Fourth, 13. As for Riis and noise: Jacob A. Riis, Neighbors: Life Stories of the Other Half (NY, 1914) 13 on “Old Black Joe” played on the street by a young woman whose fiddling could be heard “through the rattle and roar of a train passing overhead, through the calls of cabmen and hucksters.”


422. Rice, Our Barbarous Fourth, 5 for Utica Press and Minneapolis Press, 8 on the Swiss, 11 for Twain and Howells, 12 for early celebrations and patriotism; eadem, “The child and the Fourth,” The Forum 50 (July 1913) 37–47, q. 45; Civic Club of Philadelphia, Annual Report 16 (1910) 5, q. 13 Oakley; Edward J. Ward, “Old significance of the new Fourth,” The Survey 26 (June 24, 1911) 459–62, esp. 460 opposing “the senseless noise, the ugly warplay in which children are killed or maimed for life, or at best taught lessons of violence and destruction.” Leigh Eric Schmidt notes that private or familial fireworks for the Fourth were unusual before the Civil War, and that they spread in good measure due to the promotions of the Boston firm of Masten and Wells: Consumer Rites: The Buying and Selling of American Holidays (Princeton, 1995) 34–37.

ROUND THREE

1. Alexander Dalrymple, tr., Relation of Luis Vaez de Torres . . . Manila, July 12, 1607, reported in his An Account of the Discoveries made in the South Pacifick Ocean, previous to 1764. Part I (L, 1767 [i.e., 1769]), printed in James Burney, A Chronological History of Voyages and Discoveries in the South Sea (L, 1806) II,467; Diego de Prado y Tovar, New Light on the Discovery of Australia (Nendeln: Kraus, 1967 [Relación sumaria, wr. 1607/1608]) 156ff.; Brett Hilder, The Voyage of Torres (U Queensland, 1980) ch. 6; J. E. Heeres, The Part Borne
by the Dutch in the Discovery of Australia (L., 1899); Robert L. Jack, Northmost Australia (L., 1921) I,95; Raymond Evans, A History of Queensland (Camb U, 2007) 15–17, 23; John Singe, The Torres Strait: People and History (U Queensland, 1979) 15–23 (noting, p. 16, that Malays knew the Strait long before Europeans); Henry Reynolds, Aboriginal Sovereignty: Reflections on Race, State and Nation (St. Leonards: Allen & Unwin, 1996) ix–xi, 17–20, 23–24, 49 on terra nullius as applied to Australia, “thinly inhabited, even to admiration” for such an “immense tract of land . . . considerably larger than all Europe,” wrote Joseph Banks, accompanying Cook in 1770. Prior usage had “Straits”; currently it is singular.


5. Beckett, Torres Strait Islanders, 113, 118; Margaret E. Lawrie, ed., Myths and Legends of Torres Strait (U Queensland, 1970) 297–366, esp. 326–36 for Malo (often, Malu); Alfred C. Haddon, Head-Hunters Black, White, and Brown, abridged ed. (L, 1932 [1901]) esp. 33 on bullroarer, 41 on clam shells; Moore, Arts and Crafts, 7–9, 12, 41–42, and noting (p. 11) that archaeological data suggests two thousand years of settlement on Mer; idem, Torres Strait Collections, 17, 27, 31, 45, and plates 45, 290, 293–95; Singe, Torres Strait, 64, 145 on outlander presence in 1880, as also Anna Shnukal and Guy Ramsay, “Tidal flows: an overview of Torres Strait Islander—Asian contact,” in Navigating Boundaries: The Asian Diaspora in the Torres Strait (Canberra: Pandanus, 2004) 32–51.


Rivers, 35, noting that Ward and Rivers would co-found the British Journal of Psychology in 1904 and that Ward, as “the most influential British psychologist of the time,” supported Myers in his struggles at Cambridge for better experimental facilities; Charles S. Myers, “Naturalism and idealism,” Phil R 10 (Sept. 1901) 436–76, q. 468 hypermechanical, q. 471 continuum, q. 475 unity; idem, “Contributions to Egyptian anthropology,” J Royal Anthrop Inst of Great Britain and Ireland 38 (1908) 99–147, concluding a series begun in 1903. Cf. Stocking, After Tylor (→ n.6) 219–20 on Seligman’s advocacy of the “Hamitic hypothesis” with regard to the racial origins of Egyptians.


21. Norman L. Munn, An Invitation to Animal Psychology: The Behavior of the Rat (B, 1933) 2–4 on the use of laboratory rats since 1894, a sound of scurrying (and squeaking) that still attaches to experimental psychology; Willis L. Gard, “Some neurological and

22. Gamwell and Wells, *Sigmund Freud and Art*, 65, Senna and “deputies of the deceased.”


28. Freud, Totem and Taboo, q. 1, q. 66; Celia Brickman, Aboriginal Populations in the Mind: Race and Primitivity in Psychoanalysis (Columbia U, 2003) 46, 51–89. A musical journalist and composer would argue in 1921 against the common prewar prejudice that savages were by nature noisy: “the savage makes a noise only when required by a definite purpose, to overawe an enemy or at certain ceremonies and festivals…. Otherwise, the savage is quiet, even taciturn, and regards noisiness as incompatible with his manly dignity”: Constantin von Sternberg, “Noise, the disease of the century,” The Étude 39 (July 1921) 437–38.


32. Sigmund Freud, tr. E. Colburn Mayne, “Thoughts for the times on war and death” (early 1915) in Collected Papers, IV, 288–317, q. 292–93. Freud would have known by then that Ernst Lanzer, the Rat Man, had been taken prisoner (Nov. 21, 1914) but not of his death four days later, confirmed only in 1919: Mahony, Freud and the Rat Man, 17, and cf. the critical take on Freud’s work with the Rat Man by Frank J. Sulloway, “Reassessing Freud’s case histories: the social construction of psychoanalysis,” Isis 82 (June 1991) 245–75. On Freud’s elation during the first days of the war and his growing skepticism by December: Peter Loewenberg, Sigmund Freud and His Impact on the Modern World (NY: Routledge, 2001) 120–21.


[1919]) in late 1914 may have been the first to use the phrase, and although he too continued to use the term, he soon abandoned a physicalist explanation, as in his “Mental hygiene in shell shock during and after the war,” J Mental Sci 63 (1917) 467–88.


Collections, MIT; Alan Judd, Ford Madox Ford (L: Collins, 1990) 290, 292, 295. Gassed during the war, Ford thereafter always spoke “with many hr-r-r-r-rumphs and clearings of the throat”: George Antheil, Bad Boy of Music (Garden City, 1945) 146.


Monsieur Descartes (1691), conveniently reproduced in Cole, 52–58. On the poet Ausonius and his own distaste for noise: Finley Hooper and Matthew Schwartz, Roman Letters: History from a Personal Point of View (Wayne State U, 1991) 165–66, weary of crowds and brawls, and “No use to steal into the inner chamber and the recesses of your home: the cries penetrate through the house.”


46. Sandor Ferenczi, “Two types of war neuroses” (1916–1917), in his Further Contributions to the Theory and Technique of Psycho-Analysis, comp. John Rickman, trs. Jane I. Suttle et al. (NY: Basic, 1952) II,124–41, q. 140. Before the war, Karl Abraham had observed that neurotic patients sometimes fixated upon their ears and used ear-cleaning as a surrogate for sexual activity; through the frequent insertion of fingers or other objects into the ear, they had found a fantastic pleasure but provoked eczema and tinnitus. Following this logic, increasingly fearful—and sex-starved—soldiers in the trenches may have experienced the noise of bombardment as, effectively, rape. Consider Karl Abraham, “The ear and auditory passages as erotogenic zones” (1913) in Selected Papers, trs. D. Bryan and A. Strachey (L, 1948) 244–47.


55. McKenzie, City of Din, q. 86, 91, and “Litany of Din”; idem, “The clinical value of the labyrinthine nystagmus test,” JLO 24 (1909) 646–64; idem, “Discussion on labyrinth deafness,” British Med J (Nov. 10, 1923) 867–72; idem, “The crusade against noise,” English R 47 (Dec. 1928) 691–96, q. 692 on signalman; idem, “Noise and the Medical Research Council,” JLO 48 (1933) 110–13 on rigor in otological research, with rebuttal by F. C. Bartlett at 297–301; “Nature’s remedy against noise—will children be born deaf?” L Telegraph (undated clip from 1920s quoting McKenzie in Vertical File on “Noise,” Volta Bureau, DC); Guild, “War deafness and its prevention” (→ n.50) 156, no injury to labyrinth; “War deafness,” Lancet 193 (1917) 576–77, with response by Arthur F. Hurst and E. A. Peters, 622; Loeb, Military Surgery, 31–33; Fraser and Fraser, “Morbid anatomy of war injuries of the ear” (→ n.41) 60. Cf. D. J. Glibert, tr. S. A. Henry, “Influence of industrial noises,” J Ind Hygiene 3 (Jan. 1922) 264–75, a summary of what was known about noise and ear injury, prepared by the Chief Medical Inspector of Factories, Brussels, just as war broke out but published postwar with a preface claiming that since 1914 “nothing new appears to have been discovered, except that we have since learned of the idea that deafness following an explosion is usually temporary except when the auditory nerve is affected.” He reviews the effect of explosions on p. 266.

burdened with the care of children, workers, and soldiers pretending to have

57. Burton Alexander Randall Collection, Box 2, f. 10, “The detection of simulated deafness—Head and Neck Surgery, Alexandria, Virginia; Sir John Collie, “[Comments],” Lancet (Aug. 15, 1914) 451–52, based on evaluating claims for injury under workmen’s compensation laws, summed up in his Malingering and Feigned Sickness, 2nd ed. (L., 1917); Phillip D. Kerrison, Diseases of the Ear, 2nd ed. (Phila, 1921) 74, 538–45 on “War Deafness.” On the wounded: Loeb, Military Surgery, q. 47 Wiltshire, as also Wiltshire’s “A contribution to the etiology of shell shock,” Lancet (June 17, 1916) 1207–12 at 1209, no shellshock in surgical wards “where are soldiers really struck by shells.” Prior to the war, public health officials worried as much about children, workers, and soldiers pretending to have better hearing than their diseased or damaged ears could manage, so as to avoid stigma or dismissal: Clarence J. Blake, The Etiology of Acquired Deaf Mutism with Especial Reference to the Effects of Scarlet Fever (B, 1870) 2; P. Stenger, “Simulation und Dissimulation von Ohr-Krankheiten und deren Feststellung,” Deutsche medizinische Wochenschrift 33, 3 (1907) 970–73.


1997) 203–23, observes that air raids (p. 209) were “at once the reduction of sound to sight [for bombardiers]... and the epitomization of the disturbing self-sufficiency of sound in some kinds of modern experience [for victims on the ground].”


65. For some of this, see Richard Leppert, The Sight of Sound: Music, Representation,


68. Sigmund Freud, “A case of paranoia running counter to the psycho-analytical theory of the disease,” in Collected Papers, ed. Joan Riviere, II,150–61; Guy Rosolato,


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Visible: Writing Women, Culture, and Fascism
Robin Pickering-Iazzi (U Minnesota,
Futurism, and fascism,” in
Faber and Faber, (L,
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ernism: Modernism, Psychology, and the Cultural Arts in Europe and America,
”Shock effects: Marinetti, pathology, and Italian avant-garde poetics,” in
The Dissonance of Female Pleasure and Dissent
in
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Noises, Booms,
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Futurist art,” in
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Man and the Reign of the Machine”.
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Marinetti, “La Declamazione: dinamica e sinottica (1916),” Dinamo: Rivista Mensile di Arte Futurista
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, 1917), co-edited by Maria Ginanni. In the context of the cultural power and political figuration of women’s voices: Adèle O.
Gladwell, Catamania: The Dissonance of Female Pleasure and Dissent (L: Creation, 1955).
75.
205, q.
209 (from Marinetti’s “Multiplied Man and the Reign of the Machine”).
76.
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, 1918) 173–77; idem, Instinct and the Unconscious, 2nd ed. (Camb U, 1927); idem, Conflict and Dream (L, 1923) 3–6, q.
17, 66–69, 93–95; Wilfred Owen, “Anthem for Doomed Youth,” in The Valiant Muse: An Anthology of Poems by Poets Killed in the World War, ed. Frederic W.
Ziv (NY, 1936) 7; Siegfried Sassoon, Sherston’s Progress (1936) in The Complete Memoirs of George Sherston (L, 1949) 517–57, q.
521, and his Diaries, 1915–1918, ed. Rupert Hart-Davis (L: Faber and Faber, 1983), and cf.
108; Fussell, The Great War and Modern Memory (→n.39)
101–103; Richard Slobodin, W.
H.
R.
Rivers (→n.8) 11–14, 44, 53–63; Stocking, After Tylor
Hynes, *A War Imagined* (n.42) ch. 8 on Dottyville and Rivers; Edward M. Brown, “Between cowardice and insanity: shell shock and the legitimisation of the neuroses in Great Britain,” *Science, Technology and the Military*, eds. Everett Mendelsohn et al. (Dordrecht: Kluwer, 1988) II,323–45. And if you really want to know, it was a case of (Lancet, 176) “a young officer who was flung down by the explosion of a shell so that his face struck the distended abdomen of a German several days dead, the impact of his fall rupturing the swollen corpse” and filling his mouth with “the decomposed entrails of an enemy.” No sound, no speaking out, could fail to remind the officer of the horror.


80. Quiggin, *Haddon, the Head Hunter* (n.6) 139–41; Kathleen Haddon, *Cat’s Cradles in Many Lands* (L, 1911); C. G. Seligman, “Dr. A. C. Haddon, F.R.S. [obituary],” *Nature* 145 (June 1, 1940) 848–50.


87. U.S. Army Intelligence Office, Northeastern Dept., “Don’t talk…Spies are listening” (1917), in Princeton U Posters Coll, copy in Map Case 2, Drawer 10, in NMAH.


90. Lista and Minot, Le Théâtre futuriste (→ n. 42) 171 for Cangiullo.


93. Earley V. Wilcox, “To heal the blows of sound,” Harvard Graduates’ Mag 33 (June 1925) 584–90, the title taken from a line in a poem by Oliver Wendell Holmes bewailing


96. “Chicago gets out of bed, bedlam reigns in the Loop,” Chicago Trib (Dec. 12, 1918); Nicolson, The Great Silence (→ n.52); Hynes, A War Imagined (→ n.42) ch. 13, q. 254 Webb and Woolf, q. 255 Woolf. Hynes claims that the Armistice inspired no great works of art or music, except perhaps (p. 275) for John Fould’s two-hour, twenty-movement, microtonal World Requiem, composed 1918–1921 and performed on Armistice Days from 1923 through 1926. On the history of thinking about “microevents” and atomic-scale sound particles, as well as the composing of microtonal music: Curtis Roads, Microsound (MIT, 2001)


102. Ellis, Social History of the Machine Gun (→ n.24) 33–39; Anthony Smith, Machine Gun: The Story of the Men and Weapon That Changed the Face of War (NY: St. Martin’s, 2003) esp. ch. 6; Hiram P. Maxim, A Genius in the Family: Sir Hiram Stevens Maxim Through a Small Son’s Eyes (NY, 1936) q. 66, q. 169; idem, “Automobiles,” Engineers’ Soc of Western Penn (1902) 96–130; idem, Horsedless Carriage Days (NY: Dover, 1962 [1936]) 47, 55, 62; NY J (June 12, 1908), citing the NY American, in Scrapbook, Maxim Coll, as also “Silent rifle tested,” Bellingham Herald (undated) on his muffler. For data on hardness of hearing
among locomotive engineers: Glibert, “Influence of industrial noises” (→ n. 55) 265.


Manufacturers, 1926) listing quiet appliances on 549, 562; J. George Frederick, “Is the noiseless office coming?” Office Economist 12,1 (1930) 3–4, 10; Homer Kingley, “Less noise, more efficiency, better health,” ibid. 13,6 (1931) 8, 13. For the advertisements: Good Housekeeping 76 (1923) 3 Studebaker, 143 Hoffman Valves, 185 Domes; ibid. 80 (1925) 132 Westinghouse fan and, same issue, H. Addington Bruce, “What you should and should not do when illness is in the home,” 51, 200. For the typewriter in particular, consider Whispers, the house organ of the Noiseless Typewriter Company, Middletown, CT, whose initial issue (May 1921) has an essay by the humorist Stephen Leacock on “Noise,” and a subsequent issue (Aug. 1922) by Dorothy Parker, asking for “Quiet Please!”


114. “Silent Hindu defers radio talk,” NY Times (July 14, 1932) 21; “Pope sees divine
help for world,” LA Times (July 13, 1932) 1, sharing the front page with “California Bonus Army lays siege to capitol”; Kalchuri, Lord Meher, at www.lordmeher.org, V,1668–69; Shepherd, Meher Baba, 27 for dresses, 199–200 on “persistent demands from American devotees” causing Baba to set a date for breaking his silence; “Lausanne peace on earth,” Time (July 18, 1932) 13–14, and 33 for Tesla. Two other forms of quietly stolen thunder, spiritual and acoustic, were the Vedanta movement and Paramahansa Yogananda’s Self-Realization Fellowship, both well in place in America before Baba arrived, and the latter with an international headquarters in LA by 1925; Carl T. Jackson, Vedanta for the West: The Ramakrishna Movement in the United States (Indiana U, 1994); John Dudley Ball, Ananda—Where Yoga Lives (Bowling Green U, 1982) ch. 2 and, for a larger if more critical context, Srinivas Aravamudan, “Guru English,” Social Text 19,1 (2001) 19–44.


117. Ruby Cohn, A Beckett Canon (U Michigan, 2001) 5–6 for Assumption, written while Beckett was studying the silence-driven poetry of Pierre-Jean Jouve; Davy, Love Alone Prevails, 166; J. A. Ward, American Silences: The Realism of James Agee, Walker Evans and Edward Hopper (Louisiana State U, 1985) q. xiii and throughout.


1934) 33–46, on the deficits of conventional loudspeakers; Geraldine Stevens, “A small oral history,” in Ratio Scaling of Psychological Magnitude, eds. Stanley J. Bolanowski et al. (Hillsdale: Lawrence Erlbaum, 1991) ix–xi on the Psychophysics Lab, as also Leo Beranek, Riding the Waves: A Life in Sound, Science and Industry (MIT, 2008) 50 ff., esp. 54 on studies of airplane cockpit noise and noise-cancellation headsets. Beranek, who had played trap drums in a college dance band, “Polly and His Parrots,” would in his professional life figure prominently in national acoustical research for more than half a century.

131. Alfred H. Davis, Noise (L, 1937) q. 1, q. 10, 17, q. 18; idem, “An objective noise meter,” J Inst Electrical Engineers 83 (1938) 249–60, and cf. G. W. C. Kaye, “The acoustical work of the National Physical Laboratory,” JASA 7 (Jan. 1936) 167–73, which also worked to improve loudspeakers, and cf. Agar, “Bodies, machines, and noise” (→ n. 54) 206–209; Paul E. Sabine, Acoustics and Architecture (NY, 1932) v, on mechanization; Sir Duncan Grey, “The age of noise,” Chambers’s J, 7th ser., 21 (March 14, 1934) 233; Floyd R. Watson, Acoustics of Buildings (NY, 1923) 19 on wires; S. N. Davis et al., Effects of Environment and Atmospheric Conditions on Workers (NY: Amer Management Assn, 1940) 5; Morris Knowles, Industrial Housing (NY, 1920) 311, 320; Frederick V. Hunt, Papers, HUG 4458.6, General Correspondence, 1932–59, Box 1, “Consultation—Univ. P.A. System,” Letter to William Bingham, March 15, 1938, at Archives, Pusey Lib, Harvard U, as also HUG 4458.6.5, General Correspondence, “Loudspeaker” file, including advertisements and installation reports. I thank Thomas V. Hunt for permission to quote from the Hunt Papers.

been the first to construct a soundproof room for scientific research, for his Psychological Laboratory at the University of Iowa: “History of Stuttering Research and Therapy at the University of Iowa,” www.shc.uiowa.edu/wjsch/research/stuttering/history.html.


135. Lawrence M. Cockaday, “Noise may impair health though individuals become immune to continual din,” NY Herald (March 16, 1930) IV, 3; Raymond Willoughby, “The high cost of noise,” Nation’s Business (oct. 1929) 93–96 for Dockeray, Mohawk, and other
examples; “Quietness on the airway,” Quiet Mag 1,3 (Autumn 1936) 19.


138. Charles Fensky, Radium-Ear (1924?), and “Special Data, 1925–1943” on Fensky, in Box 345, f. 5, AMA Archives, courtesy of the American Medical Association, Chicago; E. F. W. Alexanderson, “How some problems in radio have been solved,” General Electric R 17 (June 1924) 373–79, q. 374, q. 376, and cf. James E. Brittain, Alexanderson: Pioneer in American Electrical Engineering (Johns Hopkins U, 1992); Zenith Radio ad, “—and now—a Radio that will ‘measure up’ years from today,” Saturday Evening Post (Dec. 13, 1924) 135.


141. Smith Brothers, “Please don’t make Talkies into Coughies,” Saturday Evening Post (Feb. 15, 1930) 121; “Including tax?” World Telegram (May 2, 1938) in Clark Radioana (→ n. 110), Ser. 169, Box 573, as also Hugo Gernsback, ed., Radiocracy for Xmas-New Year 1944 (NY, 1944) 15, Box 572. Wurtzler, Electric Sounds, 97–98, notes the intrusiveness of coughing in radio studios and on Talkies sets and reproduces an advertisement for Old Gold cigarettes (Life [April 12, 1929]) featuring Richard Barthelmess saying “Please pardon my frown... but someone in the studio just coughed... and spoiled our love scene.”

the phonodeik and other “phonophotographic” devices of the 1920s were promoted as technologies for transcribing “folk music” once thought “unnotatable,” such as the “queer pranks,” quavers, and “twists and turns” of Negro singing, and Native American “slurring” of tones: Milton Metfessel, Phonophotography in Folk Music (Chapel Hill, 1928). In effect, this genre of filmed sound transposed what had been considered little more than noise into visual rhythms that could be seen to be music.

143. Joseph T. Tykociner Papers, 1900–1969, in University Archives, University of Illinois at Urbana-Champaign: Box 12, Autobiographical Data, offprint of J. Tykocinski-Tykociner, “Photographic recording and photoelectric reproduction of sound,” Trans Soc Motion Picture Engineers 16 (1923) 90–119; Box 12, “Personal Recollections,” niece’s notes from Tykociner’s dictation (July 17, 1957) and “Reminiscences 1905–19”; “Inventor describes all details of his sound recording camera,” NY World (July 30, 1922) 3, on the Biograph show and on the film demonstration of Tykociner’s wife ringing a bell after speaking through an amplified telephone and asking, “Did you hear the bell ringing?” Also Box 14, transcript of interview by Wayne Kaplin (March 9, 1967), reel 2; Box 20, lab notebook (Jan. 1922) esp. Jan. 11, and “First Lecture, Sound on Film, June 6, 1923”; Donald MacKenzie, “Sound recording with the light valve,” Bell Labs Record (Nov. 1928) 26, photoelectric sensitivity; Harry Acton, “Lee de Forest describes his phonofilms,” Evening Mail Radio R and Home Mechanics (Sept. 23, 1922) sect. 2, q. 1; S. K. Wolf (Theatre Acoustics Engineer, ERPI), “Should sound be easy to listen to?” typescript in Earl Sponable Papers (→ n. 132), Box 2, file on “Acoustic Control Data,” as also file on “Academy of Motion Pictures Arts and Sciences,” typescript of “Method of Nominating and Voting for 1930–1931 Academy Sound Award,” and file on “Acoustic Data 1932,” letter of March 24, 1932 from ERPI to Sponable on the noise of movie lights during filming, and Sponable’s letter to H. Keith Weeks of Fox Movietone Studios, Oct. 17, 1931; Barton Kreuzer, “Noise reduction with variable area recording,” J Soc Motion Picture Engineers 16 (1931) 671–77 on intrinsic and extrinsic background noise.


John R. Carson, “Selective circuits and static interference,” Bell System Technical J 4 (1925) 265–79, q. 266, and cf. idem, “The statistical energy frequency system spectrum of random disturbances,” ibid. 10 (1931) 374–76, linking these disturbances with the Schroteffekt.


148. David C. Cassidy, Uncertainty: The Life and Science of Werner Heisenberg (NY: W. H. Freeman, 1992) 14, 91, q. 92 on quanta. What follows is essentially a gloss on Cassidy, although he does not, as I do, listen for noise.

268–76 and 280–82, and Schrödinger’s work on atmospheric physics and hydrodynamics under the eyes and influence of Serafin Exner, pp. 292–98.


157. Burgess advertisement, in Quiet Mag 1,3 (Autumn 1936) iii.


159. William Blackstone, Offenses against the Public Peace (L, 1765); State of North Carolina v. Cainan, 94 N.C. 880 (1886) upholding an ordinance against cursing; Fish v. Dodge, 4 Denio (N.Y.) 311 (1847) at 313, and cf. Ray v. Lynes, 10 Ala. 53 (1846), refusing to
enjoin the erection of a blacksmith’s shop next to a residence, cited in *Rouse and Smith v. Martin and Flowers*, 75 Ala. 510 (1883) regarding a livery stable, whose presumed injuries were not so “vast and overwhelming” as to merit an injunction *in advance*, as also *Whitney v. Bartholomew*, 21 Conn. 213 (1851); W.R. Cornish and G. de N. Clark, *Law and Society in England, 1750–1950* (L: Sweet and Maxwell, 1989) 154–59. Cf. *State v. Anonymous*, 6 Conn. Cir. 667, 298 A. 2d 52 (1972) on the history of breach of peace statutes, which Justice Jacobs found to be chaotic, in part because these had attracted scant attention from legal scholars or jurists, since defendants in such cases were usually of the poorer sort and the broad political uses were so handy.


so long as undeveloped land was abundant. Noise, however, was not as inextricably linked to industrialization as were nuisances from smoke or water pollution, and the principles of nuisance law were quickly incorporated into statutes protecting public health: Robert McCracken et al., Statutory Nuisance (L: Butterworth, 2001). Cf. Donald Wittman, “First come, first served: an economic analysis of ‘coming to the nuisance,’” J Legal Studies 9 (1980) 557–68.


163. Fanshawe and others v. London and Provincial Dairy Co. et al., 4 Times Law R. 694 (1887), judgment favoring a longstanding dairy despite the fact that the doctrine of coming to a nuisance “was now exploded,” but then Tinkler v. Aylesbury Dairy Co., 5 Times Law R. 52 (1888), citing and apparently agreeing with Fanshawe yet nonetheless finally enjoining Aylesbury from “carrying on in such a way as to cause a Nuisance,” with particular regard to the rattling of milk cans; Horace G. Wood, A Practical Treatise on the Law of Nuisances (Albany, 1875) ch. 16 and q. 476, q. 583, q. 587, 598; Dennis v. Eckhardt, 3 Grant (Penn, 1862) 392, damages at law distinguished from abatement as directed by an Equity court, and cf. St. James’ Church v. Arrington, 36 Ala. 546 (1860), decision by Justice Wallace with regard to livery stables that “The jurisdiction of courts of equity, to interpose by injunction in cases of private nuisance, is of comparatively recent growth...[and] should be used cautiously and sparingly”; Crump v. Lambert, 3 Law R. (Eq. Cas.) 409 (1866–1867); Walker v. Brewster, 5 Law R. (Eq. Cas.) 25 (1868); Colgate et al. v. N.Y. Central and Hudson Rail Road Co., 51 N.Y. Misc. 503 (1906) at 513 and 515. Cf. Eller v. Koehler, 68 Ohio St. 51 (1903), Justice Davis citing Wood in support of a less rigid interpretation “of a very old definition of nuisance.” English equity courts had greater jurisdiction with regard to
enjoining nuisances than did American: Wallace v. Auer, 10 Phila. 356 (Penn, 1875) at 357.


165. Rogers v. Elliott, 146 Mass. 349, 15 N.E. 768 (1888) at 351; Lexington and Ohio Rail Road v. Applegate, 8 Dana 289 (Kentucky, 1839) cited in Horwitz, Transformation of American Law, 71; Bell v. Ohio and Pennsylvania Railroad, 25 Pa. 161 (1855) at 175; Mygatt v. Goetchins, 20 Ga. 350 (1856) at 358 and 359. Cf. Gaston Bachelard, The Poetics of Space, tr. Maria Jola (B: Beacon, 1994) esp. 28, convinced that “the image of the city’s roar is in the very ‘nature of things,’ and that it is a true image.”


167. Everett v. Paschall, 61 Wash. 47, 111 Pacific 879 (1910) at 880 (going against an earlier legal generation’s decision in Rhodes et al. v. Dunbar et al., 57 Pa. 274 (1868); Cluney v. Lee Wai, 10 Hawaii 319 (1896) at 323; Kestner v. Homeopathic Medical and Surgical Hospital, 245 Pa. 326 (1914); Appeal of Ladies Decorative Art Club of Philadelphia, 10 Sad. 150, 13 Atl. 537 (Penn, 1888).


played by the woman activates the hurdy-gurdy. a black street musician and installs it opposite the piano in such a fashion that each chord side, offended by the pianistics of a young woman on the other, buys a hurdy-gurdy from Michael A. Wolf, 1935 higher in pitch than street traffic and more monotonous. Winston Churchill had already “legislated away the right of U.K. citizens to sue for the invention of a horn loud enough to communicate with aircraft five miles off. In the spread of aviation could be encouraged”: Michael J. Smith, Aircraft Noise (Camb U, 1989) 21.

Stephen E. Slocum, Noise and Vibration Engineering (NY, 1931) xv, reporting also the invention of a horn loud enough to communicate with aircraft five miles off. In 1920, a party-wall feud was depicted in “The Philosopher’s Revenge,” Punch 61 (March 13, 1869) 102, 121, where a deep thinker on one side, offended by the pianistics of a young woman on the other, buys a hurdy-gurdy from a black street musician and installs it opposite the piano in such a fashion that each chord played by the woman activates the hurdy-gurdy.


“The hell of noise” in Japan,” Lit Digest 110 (Aug. 15, 1931) 13, from the Osaka Mainichi Shimbun [Daily News]; City Club of Chicago, Noise Abatement Committee, The Problem of Noise Abatement in Chicago (Chicago, 1937), 11 for Bombay and Havana; James J. Flink, America Adopts the Automobile, 1895–1910 (MIT, 1970) 58, 75, 96, 195; “$149,000,000 given to mankind in 1907... Was also a year of disasters,” NY Times (Jan. 2, 1908) 10;


War was to go buy a used motorcycle and drive it to Edinburgh and back: Mervyn Horder, *The Little Genius: A Memoir of the First Lord Horder* (L: Duckworth, 1966) 71, 93.


188. Christopher Sawyer-Lauçanno, e. e. cummings (Naperville: Sourcebook, 2004) 184; e. e. cummings, *The Enormous Room* (NY, 1922). On lights and babies: Archambault, “The effect of noise on the nervous system” (→ n.93) 1110, 1112. On traffic lights and an invention that allowed drivers on sidestreets to honk to change the light at an intersection: “Invents traffic light signal controlled by autoist’s horn,” *Baltimore Sun* (Dec. 20,


pitch discrimination and speech recognition.


9.2-percent increase in efficiency: F. K. Berrien, “Effects of noise,” *Psych Bull* 43 (March 1946) 141–61 at 149. Morgan in 1926 reported to the 16th Safety Congress in Chicago that “even the suggestion ‘horrible din’ to a hypnotized subject quickens the pulse, indicating that the emotional attitude of the subject toward the sounds may be of greater significance than the quality of the sound itself”; Shirley W. Wynne, “New York City’s Noise Abatement Commission,” *JASA* 3 (1930) 14–15. For a critique: H. M. Johnson, “Noise: a social problem,” *Harper’s Mo* 159 (Oct. 1929) 564–67, on the “social paranoia” created by unsustainable generalizations drawn from experiments by Laird and from analyses by efficiency experts.


211. “Rest cures for sick ears,” NY Times (July 3, 1928) 20; “The noise ‘emergency,’” ibid. (July 7, 1930) 18; Brown et al., City Noise, 17 for emergency, 46 for Fletcher, 81 for Budapest and NY Post, 119 for the 10,000.


213. Herman H. Scott, The Noise Primer (Camb, 1943) q. 1, and 3, 23–24 on imperfect microphones yielding decibel discrepancies at low and high frequencies; J. W. Horton, “The bewildering decibel,” Electrical Engineering (June 1954) 550; Helen U. Price, “Baltimore and the battle over noise,” Baltimore Sun (Dec. 1, 1935), in “Noise,” Vertical Files, Enoch Pratt Free Lib, Baltimore; George Bugliarello et al., The Impact of Noise Pollution (NY: Pergamon, 1976) 4 on the 99.9 percent, and p. 25 on such audiometric surveys as John C. Steinberg et al., “Results of the World’s Fair hearing tests,” JASA 12 (1940) 291–97, and H. C. Montgomery, “Analysis of World’s Fairs’ hearing tests,” Sci Mo 50 (1940) 335–39; J. C. Webster et al., “San Diego County Fair Hearing Survey,” JASA 22 (July 1950) 473–83; Geiger, Noise-Reduction Manual (→n.190) 1–2; C. C. Bunch, “Age variations in auditory acuity,” Archives of Otolaryngology 9 (1929) 625–36; idem, with T. S. Railford, “Race and sex variations in acuity,” ibid. 13 (1931) 423–28. For Knudsen: “Some cultural applications of modern acoustics,” JASA 9,3 (1938) 175–84 and “Acoustics in comfort and safety,” JASA 21 (July 1949) 296–301, anticipating his “Noise the bane of hearing,” Noise Control 1 (1955) 11–13, one of many forums in which he expanded upon a comment he made in “Anecdotal history,” JASA 26 (1954) 884, that environmental noise was rising at the rate of one decibel a year, a figure extrapolated from a tongue-in-cheek observation that in 1928/1929 “we thought that 125 decibels was a big and a dangerous noise. Today we speak of 150 decibels in about the same manner as we did of 125 decibels only 25 years ago. Thus in a matter of only 25 years we’ve had an increase of 25 decibels, or on the average one decibel a year. [Laughter.]” He appeared to take this average more seriously in later presentations, and it was cited often by the media as well as by acousticians like V. L. Henderson, “Noise: its sources, measurement, and characteristics,” A Conference on Noise in the Environment: Causes, Effects, Controls (Toronto: Conservation Council of Ontario, 1971) 5, with further reference by G. J. Thiessen at 29 and 33, where the number turns apocalyptic: “If in fact noise continued to increase by one decibel per year as it is at present during the daytime, then in one hundred years the intensity would be such that our clothes would catch fire, and our hair would be singed, because the energy would be about one watt per centimeter.”

decree here by La Guardia during October,” ibid. (Aug. 11, 1935) 1; “Night din in the city dwindles as campaign to end noise begins,” ibid. (Oct. 1, 1935) 1; “1,273 noise makers get warnings, 5 arrested in drive’s first night,” ibid. (Oct. 2, 1935) 27; “Brass band’s blare ends anti-noise hearing; trumpets and drums lend point to speeches,” ibid. (April 12, 1930) 21; “It’s still bedlam on the subway,” NY Times Mag (Sept. 29, 1940) VII,7, reviewing five years of anti-noise campaigning. Each chapter of James Flexner, City Noise. Vol. II (NY, 1932) was separately paginated. I use preface 1–3; ch. 1, q. 1 for cricket, 2–3; ch. 2, q. 1, 5; ch. 3, 9 for ghost; ch. 5, 1–10 for schools, 10 for “hush day”; ch. 6, q. 7 for the blind.


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Din in small towns,” *NY Times* (April 12, 1931) III, 2, citing the Arctic explorer Vilhjalmur Stefansson on the “frozen silent North” being as “noisy as a Chicago street canyon at 4 p.m.,” with the cracking of ice shelves and shrieks of seabirds.


222. Kaye, “Measurement of noise” (→ n. 122) q. 159. On the efforts of two generations of RCA engineers and others to reduce the noise of phonographic recording and playback in order to expand (or at least restore) sensitivity to and reproduction of timbre, especially with the development of long-play (33⅓ rpm) and stereo systems: Harry F. Olson, “A review of twenty-five years of sound reproduction,” *JASA* 26 (1954) 637–43; Colin Symes, *Setting the Record Straight: A Material History of Classical Recording* (Wesleyan U, 2004); David Morton, *Off the Record: The Technology and Culture of Sound Recording in America* (Rutgers U, 2000); Susan Schmidt-Horning, “Engineering the performance: recording

223. JoAnne Yates, Control through Communication: The Rise of System in American Management (Johns Hopkins U, 1989) q. 12 from the mechanical engineer Henry Metcalfe (1886), 56 for vertical files, 88 for Gantt Progress Chart (1917), and 95 for memo (1918).


233. These mixed metaphors come home to roost in French, where “parasite” is also


241. D. T. Suzuki, The Zen Doctrine of No-Mind (York Beach: Weiser, 1972 [1949]) 93, 153 on boxing the ear; Roberta Wohlstetter, Pearl Harbor: Warning and Decision (Stanford U, 1962) chs. 1–2. A contrary interpretation was devised by secret police and Cold War interrogators, who called their practice of boxing a torture-victim’s ears with cupped hands so as to cause pain but no visible wound “teléfono”: Eric T. Stover and Elena O.

242. Lewis Hyde, “Elegy for John Cage,” *Kenyon R 5* (Summer 1993) 55–56; John Cage, *A Year from Monday* (Wesleyan U, 1967) 134, discussed by Kahn, *Noise, Water, Meat* (→ n.64) 189–91, and Dyson, *Sounding New Media* (→ n.109) 60–72; McLachlan, *Noise* (→ n.132) 5; Price, “Baltimore and the battle on noise” (→ n.213); Morris F. Heller and Moe Bergman, “Tinnitus in normally hearing persons,” *Annals of Otolaryngology* 62 (1953) 73–83, q. 74 from R. L. Wegel, “A study of tinnitus,” *Archives of Otolaryngology* 14 (1931) 158. For another moral-metaphorical use: Jean-François Lyotard, *Soundproof Room: Malraux’s Anti-Aesthetics*, tr. Robert Harvey (Stanford U, 2001). From the yogic perspective, another tradition with which Cage had a passing acquaintance, disciples are instructed to concentrate upon the “Dhūm-Dhum-Kāra Nāda” that can be heard within the head when both ears are plugged up, which gradually turns into the mantric Om: Guy L. Beck, *Sonic Theology: Hinduism and Sacred Sound* (U South Carolina, 1993) 100. In 1955, having constructed a soundproof room specifically for better cardiac auscultation, a physician at the Medical College of South Carolina reported that “cardiac murmurs which may be totally inaudible in the ordinary clinic or hospital environment can be heard distinctly in the ‘sound room’”; Dale Groom to S. S. Stevens, April 5, 1955, with reply from Stevens on April 15 in Box 3, 713.9010, Corr. D–N, in the Papers and Records of the Harvard Psycho-Acoustic Laboratory (hereafter, PAL) Archives, Pusey Lib, Harvard U. For my own quarter-hour inside an anechoic chamber, I must thank Robert Piserchio of the Physics Department, San Diego State U. I must also admit that a lifelong history of asthma, and consequently of listening to my own breathing, has doubtless skewed my approach to Cage’s experience of his own breathing, and the rest.


247. Cf. Haig A. Bosmajian, The Freedom Not to Speak (NYU, 1999); Louis M. Seidman, Silence and Freedom (Stanford U, 2007), an intriguing legal analysis. The via negativa of Christian theology, or apophatic discourse more generally, in which one speaks of the unspeakably glorious until enlightened enough not to speak at all, is another, older tradition in which to couch Cage’s writing/performance after 1950. Consider here Jacques Derrida, “How to avoid speaking: denials,” Languages of the Unsayable (→ n. 230) 3–70.


255. Weir, “Fashioning naval oceanography,” 77–79, 88 n. 6; Dorsey, “Transmission of sound,” 434; John O. Herrick, *Subsurface Warfare: The History of Division 6, NDRC* (DC, 1951) q. 22 for “ping-happy” and ocean acoustics. On sonar rooms and training, I rely upon the following Reports of the University of California Division of War Research in the Archives, SIO (hereafter, UCDWR): Henry E. Hartig and George A. Brettell, Jr., “Primary Listening Teacher” (U57, April 30, 1943), a device (with electronic noise-generator)
for the New London Submarine School and West Coast Fleet Sound School, San Diego, in Box 1; C. F. Bradley, “Shipboard Anti-Submarine Attack Teacher” (U93, Aug. 30, 1943) in Box 2, f. 91; William J. Giese, “Test-retest reliability of the [Western Electric] 6B Audiometer under military conditions” (U16, Aug. 30, 1943) in Box 2, f. 92 on rooms with double doors, double floors, Celotexed ceilings and walls, yet susceptible to outside noises such as scrub buckets and footsteps; “Submarine sounds recorded for Mare Island, Navy Yard” (M277, Nov. 18, 1944) in Box 3, f. 244; Instructor’s Manual: Echo Recognition Group Training (M341, Oct. 15, 1944) in Box 3; also the Chief Signal Officer materials, directly ahead (→ n.258). On difficulties with auditory processing related to sonar work: William A. Yost and Sandra J. Guzman, “Auditory processing of sound sources: is there an echo in here?” Current Directions in Psych Sci 5 (Aug. 1996) 125–31.


Fields and Mark J. Weissburg, “Evolutionary and ecological significance of mechanosen-
sor morphology: copepods as a model system,” *Marine Ecology Progress Series* 287 (2005)
269–70.

263. J. E. Duffy et al., “Multiple origins of eusociality among sponge-dwelling shrimps


283. Charles R. Adams, “Aurality and consciousness: Basotho production of


2005) 164. For a direct analogy between acoustic noise and visual ocean pollution: Shift-


305. Donald A. Laird and Eleanor C. Laird, *The Strategy of Handling Children: Questions-and-Answers on Parents’ Problems* (NY, 1949) 78–79; Richard Wright, “Long Black Song,” in *Uncle Tom’s Children* (NY: Harper and Row, 1965 [1938]) 125–56, q. 126–27; Lee Salk, *Ask Dr. Salk: Questions and Answers about Your Family in the 80s* (Indianapolis: Bobbs-Merrill, 1981) 82–85, q. 84–85. As for boredom, the literature on the need for stimulation in utero went back at least to J. C. Grimwade et al., “Sensory stimulation of the human fetus,” *Australian J of Mental Retardation* 2 (1970) 63–64. Daniel Beekman, *The Mechanical Baby: A Popular History of the Theory and Practice of Child Raising* (Westport: Lawrence Hill, 1977) xv, reminds us that Galen had much earlier observed that even quiet could be a burden to infants, whose crying was always meaningful. Currently, parents are being cautioned that crying is not always meaningful and must be tolerated in the acronymic form of PURPLE or Peak pattern, Unpredictable, soothing-Resistant, Pained expression, Long bouts of crying, usually in the Evening. The designation of PURPLE crying may be a confession of pediatricians at their own wits’ ends, but it is also an attempt to forestall

Peter G. Hepper and Sara Shahidullah, “Development of fetal hearing,” *Fetal and Maternal Med R* 6 (1994) 167–79, the range of frequencies to which a fetus responds as it ages expands first downward from 500 Hz to 100 Hz, then upward to 1000 Hz and 3000 Hz.


because they too claim to be able to distinguish sounds, and tonal differences, inaccessible not only to the ordinary listener but to acoustic measuring devices: Marc Perlman, “Golden ears and meter readers: The contest for epistemic authority in audiophilia,” Social Studies of Sci 34 (2004) 783–807.


321. René Farabet, tr. Kaye Mortley, “In the beginning was the ear,” Art & Text 31 (Dec.–Feb. 1989) 14–21. Cf. the fascination of Hannah Merker, a woman who became almost entirely deaf as an adult, with the waterworld of the fetus and the embryonic sense of balance that comes with the development of the inner ear: Listening: Ways of Hearing in a Silent World (Southern Methodist U, 1992/94) 22–24.


On SIDS: J. B. Beckwith, “The sudden infant death syndrome,” Current Problems in Pediatrics 3 (June 1973) 1–36; Eileen G. Hasselmeyer and Jehu C. Hunter, “A historical perspective on SIDS research,” Annals NY Acad of Sci 533 (Aug. 1988) 1–5, esp. 4 on the “marked reduction in charges of infanticide brought against parents and baby sitters” after research showed underlying morbidity among SIDS infants, and cf. the case of Waneta Hoyt, who used SIDS to explain the death of all five of her young children when, “really, she couldn’t stand their crying”: Jeffrey A. Kottler, The Language of Tears (San Francisco: Jossey Bass, 1996) 15. For insinuations that a failure to cope properly with crying babies can lead to other, later violations by the parent or to childhood trauma and adult addictive


137–41, q. 137. For a more political lineage of children’s literature: Julia L. Mickenberg and Philip Nel, comps., Tales for Little Rebels: A Collection of Radical Children’s Literature (NYU, 2008).


339. Aunt Laura, “Hush!” The Nursery: A Mo Mag For Youngest Readers 15 (1874) 83; John Habberton, Helen’s Babies: With Some Account of Their Ways Innocent, Crafty, Angelic, Impish, Witching, and Repulsive (B, 1876) q. 31, 36, 133; Young America series, The Noisy Boy (NY, 1870) 1; Josephine Franklin, Nelly’s First Schooldays (B, 1860) 119; idem, Nelly’s Illness (NY, 1881) 25–27; Frances H. Burnett, Editha’s Burglar (B, 1888) 27, 31, 35; Joyce Wilson, Party Games for all Occasions (Portland? 1938) 13, Shouting Proverbs; Calvert, Children in the House, 109–12, and 115–16, observing that boys and girls were far more eclectic in their choice and use of toys than gendered advertising would lead one to believe; Mintz, Huck’s Raft, 84–87 on the imposition of greater gender distinctions among boys and girls when childhood is romanticized and female purity emphasized. Cf. Christine Stansell, City of Women: Sex and Class in New York, 1789–1860 (U Illinois, 1987) 47–49, 202–205, and noting (pp. 57–58) the large number of women whose legal depositions revealed that they were awake long into the night listening to “sounds of discord and crying babies” through thin tenement walls; Hugh Cunningham, The Children of the Poor: Representations of Childhood since the Seventeenth Century (Oxford: Blackwell, 1991) ch. 5 on street “savages” in England.
On Palmer Cox’s Brownies: Avery, Behold the Child, 143–44, who also (pp. 155–83) contrasts English “restraint” with American “latitude” in books about and for girls.


Sandburg’s *Rootabaga Stories,*” *Children's Lit* 8 (1980) 118–32, q. 120 from his letters. Sandburg was subject to the same criticisms as leveled by Richard Burton against other “New Verse” in his “Noise in art,” *The Weekly R* 3 (July 1920) 40: “The writers of New Verse throw ‘pep’ into poetry very much as Billy Sunday throws pep into preaching. It is a method by way of noise.” Sandburg did not likely know that the first children’s books published in the United States for other than school or religious instruction were of a noisy sort: manuals for making fireworks and illustrated collections of street cries: Leonard Marcus, *Minders of Make-Believe: Idealists, Entrepreneurs, and the Shaping of American Children's Literature* (B: Houghton Mifflin, 2008) 14–18.

349. Leonard Weisgard, Caldecott acceptance speech, typescript with emendations in *The Horn Book* Collection, Box 20, f. 10; idem, speech as presented (July 2, 1947), online at www.leonardweisgard.com/caldecott1.htm; Margaret Wise Brown, letter to Lucy Sprague Mitchell (July 29, 1942), in Box 4, Personal Letters, Bank Street, in Lucy Sprague Mitchell Papers (→ n. 334); Leonard S. Marcus, *Margaret Wise Brown: Awakened by the Moon* (B: Beacon, 1992) 96–98, 163–66, 174.


358. The conclusions in this paragraph are based upon my reading of some twelve hundred children’s books, the majority published since 1930, whose plots are driven by noise or by noise or a quest for quiet, as well as one hundred works of children’s nonfiction dealing with acoustics, thunder, soundmaking, or related subjects. A bibliography will be found on the Zone/MIT website for this book. As for the works cited here: Edward Hemingway, *Bump in the Night* (NY: Putnam’s, 2008); Michael Rex, *Goodnight, Goon: A Petrifying Parody* (NY: Putnam’s, 2008); Kate Klise, *Why Do You Cry? Not a Sob Story* (NY:


Discussions of war trauma during the 1999
Defence Publications, htm and http://siarchives.si.edu/research/sciservwomenvandewater.html.

364. W.R. Bion, Experiences in Groups and Other Papers (NY, 1959); idem, The Long
Week-End 1897–1919: Part of a Life, ed. Francesca Bion (Abingdon: Fleetwood, 1982) q. 18,
q. 143 Dante, and 119ff. for tank warfare; idem, “The ‘war of nerves’: civilian reaction,
morale and prophylaxis,” in The Neuroses of War, ed. Emanuel Miller (L, 1940) 180–200;
Jacobs, “Palinurus and the tank: Bion’s war” (→n.37); John A. Mills and Tim Harrison,
“John Rickman, Wilfred Ruprecht Bion, and the origins of the therapeutic community,”
H Psych 10 (Feb. 2007) 22–43; Alison Winter, “The making of ‘truth serum,’” Bull H Med
79, 3 (2005) 500–33; Grinker and Spiegel, War Neuroses: Heims, The Cybernetics Group (→n.235)
40, 134; Hans Pols, “The repression of war trauma in American psychiatry after World
War II,” in Medicine and Modern Warfare, eds. Roger Cooter et al. (Amsterdam: Rodopi,
1999) 251–76; idem, with Stephanie Oak, “War and military mental health: the U.S.
Discussions of war trauma during the 1940s were muted in other countries as well.

“Bion revisited: group dynamics and group psychotherapy,” 47–55, and cf. Alfreda
S. Galt and Mary Alice Roche, eds., Lifwynn Correspondence 2 (Autumn 1992), an issue
dedicated to the work of Trigant Burrow and the relationship of group therapy practices to
Freudian and other analysis; Bion, The Long Week-End, 237; Virginia Woolf, “Thoughts of
peace in an air raid,” in Death of the Moth and Other Essays (NY, 1942) 243–48, and cf. Joan
Woollcombe, “Noise in wartime, from the woman’s point of view,” Quiet Mag 2 (March
1940) 19; Irvin L. Child and Marjorie Van de Water, eds., Psychology for the Returning
Serviceman (NY 1945) q. 2, q. 3, q. 5, 129, 132, 168, q. 181, 184 on avoiding the term “shell-
shock,” and ch. 14 on “Combat Nerves”; Terkel, The Good War, 108 for Terry. In their
earlier co-edited volume, Psychology for the Fighting Man (1943), which sold half a million
copies, Van de Water and Child had pushed for “psychological armor” for civilians and for
respectful treatment of those who returned from the war with “neuropsychiatric disabili-
ties”; Record Unit 7091, Box 390, f. 31, “Adventures in Science” broadcast transcript (Aug.
5, 1944) in her Papers, as summarized at http://siarchives.si.edu/findingaids/FARU7091.htm and http://siarchives.si.edu/research/sciservwomenvandewater.html.


CID (Central Institute for the Deaf, St. Louis), Press Release (Feb. 17, 1946), “War time research hearing aids and aural rehabilitation,” in Box 3, “Aural Rehabilitation,” in PAL, 713.9020, as also Box 3, “Aural Reconditioning,” 713.9021, memos throughout reflecting surprise at number of soldiers sent home for reconditioning; S. N. Stevens et al., Effects of Environment and Atmospheric Conditions on Workers, American Management Association Production Series, 119 (NY, 1940) 5; “The Case of the ’War Nerves’ Victims,” Time (Sept. 11, 1944); Edwin G. Boring, letter to “Smitty” (Feb. 5, 1943), passing along questions from Miss Van de Water, in 2.10, Correspondence 1934–1972, file “Boring,” in Stanley S. Stevens Papers (→ n.242); Frank McDowell, “Plastic surgery in the twentieth century,” Annals of Plastic Surgery 1 (March 1978) 217–24 at 222; J. S. Rogers, Protecting Plant Manpower, Special Bulletin No. 3, Division of Labor Standards (DC, 1942); “How industry battles noise to win production,” Modern Industry 6 (Dec. 1943) 46–49. PAL, as above (→ n.242), was the acronym by which Harvard researchers referred to the Psycho-Acoustic Laboratory during the war, and by which in these endnotes I refer to its records. For more on PAL and noise: Edwards, The Closed World (→ n.267) 208–37. 


372. On postwar hearing aids, I rely on my reading of the Papers of Hallowell Davis, M.D., of the Central Institute for the Deaf in St. Louis, in the Archives and Rare Book Room, Bernard Becker Medical Lib, School of Medicine, Washington U. In particular: Grover Coil, letter to Davis (Sept. 30, 1947), in Box 1, f. 1 on printed electronic circuits; Hallowell Davis et al., “Desirable frequency characteristics for hearing aids” (May 1, 1946) in Box 1, f. 2; J.D. Henderson of the Real Invisible Hearing Company, Milwaukee, Wis, letter to Davis (Dec. 19, 1949) in Box 1, f. 6; Norton Canfield, Yale U School of Medicine, letter to Davis (Feb. 9, 1946) in Box 1, f. 12 on reluctance to adopt hearing aids; Harriet Hester interview of Davis for 1947 radio broadcast, on new demands for quality and on the emotional overtones of hearing aids, in Box 2, f. 4; Agenda, Joint Meeting of the Representatives of Manufacturers of Audiometers and Hearing Aids . . . AMA Council on Physical Medicine (July 27, 1947), Addendum III, Advertising for Hearing Aids, in ibid.; Davis, Memorandum to Advisory Committee [of AMA] (April 1, 1950), in Box 2, f. 6; Stanley Osserman, Chairman of the Board, Dictograph Products, Inc., NY, *Statement . . . Urging Reconsideration and Withdrawal by the Consultants of their Recommendation with Respect to Acousticon Hearing Aid Model A-100* (Aug. 31, 1949), in Box 2, f. 7; Micronic Corporation brochure (May 20, 1949) on printed circuits and miniaturized microphone, in ibid.; Acousticon, *Speech-Hearing Re-Education for the Hard of Hearing* (Jamaica, Long Island, 1945), in Box 8, f. 12; Hirshon-Garfield Copy for Acousticon Ads for Imperial A-90 (Jan. 9, 1947), in Box 8, f. 14; National Bureau of Standards, *Selection of Hearing Aids*, Circular 516 (DC, Sept. 10, 1951) on fitting hearing aids. Also: Hallowell Davis et al., *Hearing Aids: An Experimental Study of Design Objectives* (Harvard U, 1947) esp. 10 on the problematic of the fitting of hearing aids, and 61 on the magnification of sound leading to a magnification of the (background) noise “in the pauses between words,” when peak clipping used to prevent painful magnification. All of the Western Electric advertisements are in Box 129 of the D’Arcy Masius Benton & Bowles Archive, John W. Hartman Center, as proofs for the *Saturday Evening Post* in 1946: March 9 (“Family Circle”), April 13 (“You mean my dad”), June 29 (“I don’t think he likes me!”), July 13 (“You’re not a crosspatch”), Aug. 10 (“They even thought”), Sept. 7 (“Good Hearing and Happiness”). I discuss some of these advertisements in “Hearing aids: sweet nothings, or an ear for an ear,” in *The Gendered Object*, ed. Pat Kirkham (Manchester U, 1996) 43–59. For more on the technological refinement of hearing aids: Mara Mills, “Hearing aids and the history of electronics miniaturization,” *IEEE Annals of the History of Computing* 33 (Apr–June 2011) 24–44.


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377. Discussion, Noise-Exposure-Index subcommittee meeting (March 27, 1957) in Box 18, f. 19 of the Papers of Hallowell Davis, as also his “Occupational and Medical Problems of Noise,” unpublished paper (n.d.), p. 2, in Box 26, f. 18; Industrial Hygiene Foundation of America, *Annotated Bibliography on Noise, its Measurement, Effects, and Control* (Pittsburgh, 1955). Among those with “knowing ears” that had to adjust to increasingly powerful noise sources were car mechanics, who had been known to use stethoscopes to diagnose engine troubles: Kevin L. Borg, *Auto Mechanics: Technology and Expertise in Twentieth-Century America* (Johns Hopkins U, 2010) 111–12 and fig. 24.


middle-class homes: “Whatever became of the big noise about the Quiet House?” *House and Home* 30 (Dec. 1966) 88.


385. Earl Gosswiller, phone interview by author (Sept. 24, 1994); Schiffer, *Portable


389. On the music, I defer to an enormous critical and historical apparatus, beginning perhaps with José Bernhart, Traité de prise de son (P: Eyrolles, 1949), reporting on the seminal conference on sound, science, technology, and (concrete) music in Beaune in 1942, and including Daniel Belgrad, The Culture of Spontaneity: Improvisation and the Arts

On airports and airplanes, whose noise has created a field all its own, I would begin with Richard L. King, Airport Noise Pollution: A Bibliography of Its Effects on People and Property (Metuchen: Scarecrow, 1973); Jerry V. Tobias, Noise Audiometry (DC: Office of Aviation Med, 1971); Sanford Fidell, “Questing after the Holy Grail of psychoacoustics . . . again,” Sound and Vibration 30 (May 1996) 18–23 on investigations of the noise signatures of commercial aircraft since the 1950s; Michael J. T. Smith, Aircraft Noise (Camb U, 1989); Horwitz, Clipped Wings (→ n.275).


400. L. L. Olds Seed Co. v. *Commercial Union Assurance Co.*, 179 F.2d 472 (7th Cir. 1950); *Lever Bros. Co. v. Atlas Assurance Co.*, Ltd., et al., 131 F.2d 770 (7th Cir. 1942); *Hartford Fire Insurance Co. v. Empire Coal Mining Co.*, 30 F.2d 794 (10th Cir. 1929) at 798.


405. Bartusiak, *Einstein’s Unfinished Symphony*, 9–10, 149. The search for one more noise, or set of noises, to complete the “symphony” might be compared to the adding of noise, post-production, to CD albums so that the listener experiences a greater “liveliness” or completeness in the recording: Stan Link, “The work of reproduction in the mechanical aging of an art: listening to noise,” *Computer Music J* 25 (2001) 34–47.


407. Ibid., Box 1, f. “Public Relations: Barkas and Shalit, Inc.,” Report no. 4 (March 28, 1956) script for Garry Moore Daytime Show, and Report no. 6 (1956) on Johnny Carson;
Box 1, Screwball, Jim Richards (March 21, 1956) on Els; Box 2, Correspondence—Miscellaneous—A-K, Edward L. Bernays to Martin Dodge (May 1, 1953); Pierre Grivet and Austin Blaquière, Le Bruit de fond (P, 1958) vii for Gabor, who had long been interested in acoustical phenomena: “Acoustical quanta and the theory of hearing,” Nature 159 (1947) 591–94. Kellogg’s began directing attention to the noise of Rice Krispies in 1929 with advertisements such as that on the inside cover of Delineator (Aug. 1929), and was still promoting loud cereal noises in 2005 for its “Sounds Good” Raisin Bran Crunch, which however paled in comparison with the Frito-Lay Company 1997 campaign for its Doritos chips, “The loudest taste on earth.” Cf. Jean-Pierre Ciattoni, Le Bruit (Toulouse: Privat, 1997) 33 on marketing the noise of foods.


409. In the United States, some $835,000,000 was paid out in workers’ compensation for occupationally induced hearing loss between 1978 and 1987: Centers for Disease Control, Morbidity and Mortality Weekly Report 37 (March 18, 1988) 158. For anti-noise activity: Chudnov, Noise Abatement (→n.271) 45–46 for Lvov; [National] Noise Abatement Council, The Memphis Story (NY, 1953), and its Noise Abatement Digest (1959–) for other campaigns, as also the entire issue of UNESCO Courier 20 (July 1967). For the riveter: “Quiet, peace unknowns in New York” (April 14, 1955) in Noise clippings, B Herald Trib morgue, Mugar Memorial Lib, Boston U, and Bruce Ingersoll, “Domestic din ruining homes,” B Globe (June 21, 1971), from the Chicago Sun-Times, also in the morgue. For another and quite comprehensive campaign in New York City a decade later: Robert A. Baron, The Tyranny of Noise (NY: St Martin’s, 1970); Citizens for a Quieter City, Records 1950–1977 (→n.403), from which I draw the complaint by Kranch (April 15, 1970), and Box 23, “Extent,” for anti-noise campaigns worldwide. Eventually, FCC rules would prohibit any commercial from being louder than the loudest sound in regular television programming, which led to a new stratagem: producing commercials whose volume was, each second, as loud as the loudest sound in the intervening program: Jeremiah Moore, presentation at Haliburton Soundscape Workshop, Haliburton, Ontario, July 31, 1996.


411. Committee for a Quiet City, Box 1, Citizens’ Letters, P-Z, Mrs. Ruth Zoubek (April 10, 1956); Chronicle Foreign Service report from Munich, in Quiet! [NY] 2,2


which were a great concern in the 1980s and 1990s for critics suspicious of advertising, for pedagogues seeking faster ways to teach languages, and for personal growth. Consider, e.g., F. Borgeat and J. Goulet, “Psychophysiological changes following auditory subliminal suggestions for activation and deactivation,” Perceptual and Motor Skills 56 (1983) 759–66, with 40-db white noise masking; “Mind control is a terrible thing to waste,” Time Mag (March 1, 1993) 9 on reports of the KGB’s acoustic “psycho-correction” research using white noise; Centerpointe Research Institute, Beaverton, Ore, “The End Personal Growth Through Technology” advertisement, Utne Reader (Sept./Oct. 1994) 135; Fox TV, “Millennium” episode (Feb. 5, 1999), twenty-second white-noise tapes with hidden message.


For a wonderfully clear gallimaufry from the ears of an electrical engineer: Bart Kosko, Noise (NY: Viking, 2006) 61–104.


variability whose ‘wildness’ vividly impressed itself upon me in the early nineteen-sixties.’ He considered this a ‘new second stage of indeterminism.’


442. R.V. Solé et al., “Nonequilibrium dynamics in lattice ecosystems: chaotic stability and dissipative structures,” Chaos 2 (1992) 387–395; Schroeder, Fractals, Chaos, Power Laws (→ n. 423); Mandelbrot and Hudson, The (Mis)Behavior of Markets, 197–206, q. 199–200; Benoît Mandelbrot and Nassim Taleb, “A focus on the exceptions that prove the rule,” Financial Times (March 23, 2006); Mandelbrot, Multifractals, 4, bad news. For the spread into popular culture of Edward Lorenz’s 1972 coinage of “the Butterfly Effect” as...


We have just begun to understand the underlying neurophysiology of attention to sounds: Victoria M. Bajo and Andrew J. King, “Focusing attention on sound,” *Nature Neurosci* 13,8 (Aug 2010) 913–14.


Academic, 1982) 46 on jitter, a term also used now in connection with electronic circuitry: Mike Peng Li, *Jitter, Noise and Signal Integrity at High Speed* (Upper Saddle River, NJ: Prentice-Hall, 2008). Although some of von Békésy’s work has since been disproven or dismissed because he did much of his research on cadavers (Moore, 32–34), it is still relied upon for otological basics, as in William A. Yost, *Fundamentals of Hearing*, 3rd ed. (San Diego: Academic, 1994), who notes (pp. 70–71) that despite middle ear impedances, reflexes, and stapes footplate motion, “the ear does not really have an adequate protective mechanism against our present levels of acoustic stimulation.” Contrast Vittorio Colletti and Francesco Fiorino, “The role of acoustic reflex in the development of resistance to noise-induced hearing loss in humans,” in Prasher and Luxon, eds., *Biological Effects of Noise* (→ n. 431) 52–58.

448. Saia v. New York, 334 US 558 (1948) at 561–62, 565; “The right not to listen,” *San Francisco Chronicle* (Feb. 2, 1949) 14. Half a century later, megaphones and soundtrucks were themselves neither loud enough nor democratic enough for effective political expression. According to one of many musicians who protested the ministerial conference of the World Trade Organization in Seattle in 1999: "No one listens to anyone with a megaphone anymore, and relying on one person to shout orders to a crowd is risky and disempowering of those being shouted at.” The answer was a well-drilled marching band, the Infernal Noise Brigade. “In the path to constructing a better reality, and in deconstructing a system based in the misery of alienation, we choose noise as our tool”: Jennifer Whitney, "Infernal Noise: the soundtrack of insurrection,” in *We Are Everywhere: The Irresistible Rise of Global Anticapitalism*, eds. Notes from Nowhere Collective (L: Verso, 2003) 218, 226. Cf. Davide Panagia, *The Political Life of Sensation* (Duke U, 2009) 46 ff., observing (p. 52) that "we can assume that democracy and noise go hand in hand. I imagine that there has never been a quiet democratic movement, like there has never been a peaceful democratic uprising."

Meanwhile, according to medical surveys, hearing loss was rising to epidemic proportions and in 2008 a report was published that one-third of Americans had some degree of hearing loss: George Prochnik, *The Pursuit of Silence: Listening for Meaning in a World of Noise* (NY: Knopf/Doubleday, 2010) 15 pass. As for making a virtue of necessity, consider Robert Worby, “Cacophony,” in *Music, Electronic Media, and Culture*, ed. Simon Emmerson (Aldershot: Ashgate, 2000) 138–65, elevating cacophony into normalcy, or into a lovable zaniness, as with Seattle Cacophony Society, self-described as “a randomly gathered network of free spirits... surreal slapstick clowns of mirth, entrepreneurs of imagination and the innocuous agents of oxymorons” or as “daycare workers of the inner child, sailors on a sea of smirks, potholes in the information superhighway”: *Machination* 8 (Dec. 1993) and 13 (May 1994).

Keeping Your Cool in the Chaos (NY: Harmony, 2004) 85–86, “How often is the noise in our head so much louder than anything happening around us?”


Per contra, on loudness and noise as a continuing means for the assertion of rights: Simon Jones, “Rocking the house: sound system cultures and the politics of space,” J Pop Culture 7 (1995) 1–24; Jesse Stewart, “Freedom music: jazz and human rights,” in Rebel Musics: Human Rights, Resistant Sounds, and the Politics of Music Making (Montréal: Black Rose, 2003) 88–119; Ray Pratt, Rhythm and Resistance: Explorations in the Political Uses of Popular Music (NY: Praeger, 1990); Lucy Winkett, Our Sound Is Our Wound: Contemplative Listening to a Noisy World (NY: Continuum, 2010), which features Munch’s Scream on its bookjacket and argues (p. 34) that “In the Church, our sound is our wound when we ignore the dissonance in this aching world.”

Would it also be the case that listening itself has been so severely compromised that we require a “right to listen,” or at least “listener’s rights,” as set en face musical copyright by Peter Szendy, Listen: A History of Our Ears (NY: Fordham, 2008)? Cf. David Dunn, “Purposeful listening in complex states of time,” in Site of Sound: Of Architecture and the Ear, eds. B. LaBelle and S. Roden (LA: Errant Bodies, 1999) 77–81, as also Christina Kubisch, commentary on her 1997 installation, Über die Stille, 31–33; David Beard, “A broader understanding of the ethics of listening: philosophy, cultural studies, media studies and the ethical listening subject,” Intl J of Listening 23 (Jan. 2009) 7–20 on “the choice to listen individually, the choice to listen selectively, the choice not to listen, the choice to listen together, and only then the choice to listen to each other.”

