Journal of the Royal Musical Association

ISSN: 0269-0403 (Print) 1471-6933 (Online) Journal homepage: https://www.tandfonline.com/loi/rrma20

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To cite this article: Robert Sholl (2019) Feldenkrais's Touch, Ephram's Laughter, Gould's Sensorium: Listening and Musical Practice between Thinking and Doing, Journal of the Royal Musical Association, 144:2, 397-428, DOI: 10.1080/02690403.2019.1651500

To link to this article: https://doi.org/10.1080/02690403.2019.1651500

Published online: 30 Sep 2019.

Journal of the Royal Musical Association, 2019
Vol. 144, No. 2, 397–428, https://doi.org/10.1080/02690403.2019.1651500

Routledge
Taylor & Francis Group

Feldenkrais's Touch, Ephram's Laughter, Gould's Sensorium: Listening and Musical Practice between Thinking and Doing

ROBERT SHOLL

I. Introduction: listening with Feldenkrais's touch

In the first of the psychiatrist and psychoanalyst Norman Doidge's chapters on the somatic educationalist Moshe Feldenkrais (1904–84), he recounts the story of when the Feldenkrais practitioner Avraham Baniel visited the ailing Feldenkrais in 1984:

> He noticed that Feldenkrais seemed to be listening to himself, his own body, as though listening to another. Knowing his friend's curiosity, and that his friend's attachment to life was very strong, Avraham asked him, 'Moshe, how do you feel?'
>
> Feldenkrais's face was swollen, and yet he seemed, to Avraham, to be smiling in his mind. He answered slowly, 'I am waiting to listen to my next breath.'[1]

Feldenkrais's response to Baniel attests to questions that animate this study: what is the nature of listening between thinking and doing, and what are its ramifications for musical practice? He listens here to his own sensorium as he does to others through his somatic practice.[2] Musical practice (playing an instrument, for example) requires a similar self-listening; to listen to music is also to listen to the quality of another's sensorium. Feldenkrais articulates modalities of waiting and sensing without desire,

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[1] Norman Doidge, *The Brain's Way of Healing: Stories of Remarkable Recoveries and Discoveries* (London: Allen Lane, 2015), 196.

[2] For a history of somatic practices, see Martha Eddy, 'A Brief History of Somatic Practices and Dance: Historical Development of the Field of Somatic Education and its Relationship to Dance', *Journal of Dance and Somatic Practices*, 1 (2009), 5–27; and for a recent critical overview, see Sylvie Fortin, 'Looking for Blindspots in Somatics' Evolving Pathways', *Journal of Dance and Somatic Practices*, 9 (2017), 145–57.

effort, intention or expectation that he associates with the space between thinking and doing. This type of internal self-listening therefore illustrates a fulcrum or a between-space in which change, learning and improvement through awareness can occur in therapeutic and musical contexts discussed in this study.

Listening is an aspect of Feldenkrais's teaching that is almost omnipresent but rarely discussed or elaborated in the literature on this thinker.[3] It has somewhat ironically been absent from the burgeoning discourse on Feldenkrais and the performing arts, an arena of human activity with which he was increasingly involved in later life.[4] Feldenkrais's thought has been used to help people with muscoloskeletal problems (through injury, for example) and neurological problems (such as cerebral palsy, autism, strokes and brain injuries), but Feldenkrais understood his method as a tool that could be used by any person to improve the quality of their nervous system and therefore their being and functioning in the world. This improvement is, in his thought, facilitated by awareness or a listening to the self.

Through his background in physics, engineering, biomechanics and judo, Feldenkrais developed a way of using the brain and the nervous system's inherently

[3] In the first volume of his biography of Feldenkrais, which covers the period up to 1951, the Feldenkrais practitioner Mark Reese chronicles Feldenkrais's youth, his learning to fight on the streets of Palestine, his studies in judo and his scientific work in engineering in Paris, including his work in the laboratories of Joliot-Curie and that on the Van de Graaff generator (used in atomic fission experiments). Reese details Feldenkrais's escape from the Nazis (in 1940), his work for the British admiralty on anti-submarine research and his move to the new state of Israel, where he worked with its first prime minister, David Ben-Gurion. After the publication of a picture of Ben-Gurion on the beach at Tel-Aviv, Meyer Levin published an article about Feldenkrais in the *Jerusalem Post* entitled 'The Man Who Stood the Prime Minister on his Head'. Ben-Gurion and Feldenkrais were lifelong friends, and the former even tried to found a university in Israel that would specifically study the latter's work. See Mark Reese, *Moshe Feldenkrais: A Life in Movement*, i (San Rafael, CA: ReeseKress Somatics Press, 2015).

[4] Feldenkrais worked with musicians such as Yehudi Menuhin, Narciso Yepes and Igor Markevitch, and with the theatre director Peter Brook. Scholarship on Feldenkrais and musicians has focused primarily on technique rather than aesthetics or listening. It has included Alan Fraser's four books on piano playing: *The Craft of Piano Playing: A New Approach to Piano Technique*, 2nd edn (Lanham, MD, and Plymouth: Scarecrow Press, 2011); *Honing the Pianistic Self-Image: Skeletal-Based Piano Technique* (Novi Sad: Maple Grove Music Productions, 2010); *All Thumbs: Well-Coordinated Piano Technique* (Novi Sad: Maple Grove Music Productions, 2012); and *Play the Piano with your Whole Self* (forthcoming). The other major book on the Feldenkrais Method and musical practice is Samuel H. Nelson's *Singing with the Whole Self: The Feldenkrais Method and Voice* (Lanham, MD, and London: Scarecrow Press, 2001). Other practical resources include Jerry Karzen's workshop *In Tune with Yourself: Feldenkrais for Musicians* (San Diego, CA: Feldenkrais Resources, 2010), and Mary Spire's *How to Understand and Work Effectively with Musicians* (San Diego, CA: Feldenkrais Resources, n.d.). There has also been work on the Feldenkrais Method and performance anxiety: see Kristen Urbanski, 'Overcoming Performance Anxiety: A Systematic Review of the Benefits of Yoga, Alexander Technique, and the Feldenkrais Method' (BA dissertation, Ohio University, 2012), retrieved from <https://etd.ohiolink.edu> (accessed 13 March 2019). There is also forthcoming scientific work on the Feldenkrais Method and musical performance strategies from Gilles Comeau, Jillian Beacon and Donald Russell; see <https://piano.uottawa.ca/research_fr/research-on-piano-playing_fr/physical-aspects-of-performing_fr>. See also the studies on Feldenkrais in the special edition of the journal *Theatre, Dance and Performance Training*, 6/2 (2015), ed. Libby Worth and Dick McCaw.

plastic abilities to improve his students' sense of themselves.[5] He defines the self-image, understood as part of the uniqueness of each individual, through the body.[6] He believed that this self-image is formed by the unique identification of oneself in gravity and in proprioceptive space, but most importantly it is to be understood through the sense in which we feel that our own *particular* way of doing something – walking, speaking, thinking or playing a musical instrument, for example – is sensed as uniquely our own and therefore seemingly unchangeable.[7] Feldenkrais's method addresses the gap between our sense of ourselves in action and a somewhat utopian ideal of the self: there can, therefore, always be improvement.[8]

To change and improve the self-image, he developed what became known as the Feldenkrais Method, which can be taught through individual lessons called Functional Integration (FI) or group lessons known as Awareness Through Movement (ATM).[9]

[5] Susan Hallam states: 'Playing a musical instrument, which demands extensive procedural and motor learning, results in plastic reorganisation of the human brain, including the rapid enhancing of existing connections and the establishment of new ones.' Hallam, *Music Psychology in Education* (London: Institute of Education, 2006), 18. See also Simone Dalla Bella, 'Music and Brain Plasticity', *The Oxford Handbook of Music Psychology*, ed. Susan Hallam, Ian Cross and Michael Thaut (New York: Oxford University Press, 2016), 325–42.

[6] Moshe Feldenkrais, *Awareness through Movement* (London: Arkana, 1990), 10–24, 130–8. Feldenkrais's ideal holistically embodies the ideas both of 'body image', synthesized by Sean Gallagher and Andrew N. Meltzoff as 'perceptual experience of […] conceptual understanding of [and] emotional attitude to' one's own body, and of 'body schema', which is automatic and 'operates below the level of self-referential intentionality, although it can enter into and support intentional activity'. Feldenkrais's understanding of the body in this sense is closer to that of the philosopher Maurice Merleau-Ponty's thought, which the authors describe as a 'body schema [that is] a dynamic form, a being-in-the-world, of which we have a "tacit understanding"'. See Gallagher and Meltzoff, 'The Earliest Sense of Self and Others: Merleau-Ponty and Recent Developmental Studies', *Philosophical Psychology*, 9 (1996), 211–33 (p. 216), available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3845406> (accessed 11 March 2019). See also Gallagher, *How the Body Shapes the Mind* (Oxford: Clarendon Press, 2005), 25–6, and Isabelle Ginot, 'Body Schema and Body Image: At the Crossroads of Somatics and Social Work', *Journal of Dance and Somatic Practices*, 3 (2011), 151–65; and, on infant development, Carl Ginsburg, *The Intelligence of Moving Bodies: A Somatic View of Life and its Consequences* (Sante Fe, NM: AWAREing Press, 2010), 112–43.

[7] Moshe Feldenkrais, 'Bodily Expressions', trans. Thomas Hanna, *Embodied Wisdom: The Collected Papers of Moshe Feldenkrais*, ed. Elizabeth Beringer (San Diego, CA: Somatic Resources, and Berkeley, CA: North Atlantic Books, 2010), 3. On proprioception and embodiment, see Maxine Sheets-Johnstone, 'Body and Movement: Basic Dynamic Principles', *Handbook of Phenomenology and Cognitive Science*, ed. Shaun Gallagher and Daniel Schmicking (Dordrecht and London: Springer, 2010), 217–34. See also Gallagher, *How the Body Shapes the Mind*, 45–7.

[8] Gallagher and Meltzoff describe the gap between the 'body schema' and 'the perception of the body', which is 'never equivalent to a body image'. Gallagher and Meltzoff, 'The Earliest Sense of Self and Others', 216.

[9] A good definition of FI is given at <http://www.feldenkrais.com/functional-integration> (accessed 11 March 2019). FI also has an improvisatory quality that is quite different from the techniques of improvisation used in music therapy. See also Maxine Sheets-Johnstone's 'The Work of Dr Moshe Feldenkrais: A New Applied Kinesiology and a Radical Questioning of Training and Technique', *Contact Quarterly*, 5/1 (autumn 1979), 24–7.

Both modes of engagement between teacher and student(s) provide forms of somatic intervention and an environment to construct and enact modes of learning that are designed to challenge habitual perceptions and patterns of movement and to instantiate improved function and performance. The ways in which the method engages learning through experiment, through the development of curiosity and the finding of new possibilities for movement, through an internal listening to small movement differentiations and through the development of choice, flexibility and stability of action, are all essential to performing-arts training.

Listening is, of course, essential both to the method and to musical practice. In many of his ATM lessons, Feldenkrais uses the concepts of listening and sensing interchangeably. For instance, in the first volume of his monumental series of 550 Alexander Yanai ATM lessons, he provides this description of listening, which is particularly germane to musical practice:

> You will not succeed without listening or paying attention. It is like changing your accent in speech or singing. You must open your mind and listen with the utmost concentration, without effort, for that to occur. When making an effort your concentration is disrupted. It needs to be done easily, but at the same time, you must be a very strict judge. At every mistake, stop and attempt to correct it slowly. You can pay attention when you do it slowly.[10]

Performing any movement slowly (lifting an arm, for instance) with acute awareness and without effort is as essential to the method as it is to the development of fluent musical practice.[11] In the first volume of his biography, the Feldenkrais practitioner Mark Reese confirms the use of listening in Feldenkrais's teaching:

> Moshe often invoked acoustic, rather than visual, terms to describe the information coming through his hands. He 'listened', he said, with his hands. And metaphors recalling issues in underwater sound detection helped to describe the problems of sensing what is happening to another person.[12]

This aspect of articulating in language another person's intimate experience is an issue that haunts discussions of how something is done through or imparted by the Feldenkrais Method. It is also germane to instrumental pedagogy and especially, for example, vocal teaching, where suggestive metaphor is often employed because the 'instrument' (the larynx), unlike the fingers, is inaccessible in most non-clinical conditions. The cognitive scientist Steven Pinker calls the problem of articulating

[10] Moshe Feldenkrais, *Dr Moshe Feldenkrais at Alexander Yanai*, trans. Anat Baniel, 11 vols. (Paris and Tel Aviv: International Feldenkrais Federation, 1994–2004), i (1995), 37.

[11] On the neurophysiology of this, see Ginsburg, *The Intelligence of Moving Bodies*, 223–4.

[12] Reese, *Moshe Feldenkrais*, i, 205.

transference, in a linguistic context, the 'curse of knowledge: a difficulty in imagining what it is like for someone else not to know something that you know'.[13]

This ability to reach into another person's body through one-to-one personal lessons in Feldenkrais's method, and to describe for others, perhaps sometimes better than they could describe for themselves, what was happening to them was, on the evidence of the many films and recordings available of his work, one of Feldenkrais's talents. One of the reasons for this, I suggest, is that Pinker's 'curse' is reversed if not obviated in FI: the toucher has the same capacity to be surprised by new sensations and knowledge (understood as something integrated into the sensorium) as those who are touched.

Feldenkrais's ability to concretize experiential knowledge is exquisitely demonstrated in two recorded lessons with Ephram, a young Canadian boy with cerebral palsy.[14] One of Ephram's problems is that his knees are seemingly stuck together in walking. He therefore has difficulty connecting the underside of his feet to the ground and allowing his full weight to rest through his feet. He walks in a pigeon-toed fashion with the aid of a walker. Feldenkrais's oral commentary during the lessons, filmed at a workshop in Toronto, is essentially addressed to an assembled group of his students present in the background of the film, and is not given for Ephram. He notes for the camera at the start of the lesson that Ephram has seen specialist doctors and that they 'want to cut the adductors […] the muscles that keep the knees together'.[15] This would then allow Ephram to open and close his legs freely and so allow him to sense the ground through his feet.[16]

Feldenkrais stops several times in the middle of both FI lessons with Ephram to explain to his audience what is happening. He makes wordless suggestions or

[13] Steven Pinker, *The Sense of Style: The Thinking Person's Guide to Writing in the Twenty-First Century* (London: Allen Lane, 2014), 59.

[14] Doidge discusses this lesson briefly in *The Brain's Way of Healing*, 187. Albert Rosenfeld also discusses it in 'Teaching the Body How to Program the Brain is Moshe's Miracle', *Smithsonian Magazine*, 11/10 (January 1981), 1–6. See also <http://feldenkraisperth.com/feldenkrais-helping-children> (accessed 11 March 2019).

[15] See Moshe Feldenkrais, 'Functional Integration with Cerebral Palsy, Session I', *The Work of Dr Moshe Feldenkrais*, 2 DVDs (San Diego: Feldenkrais Resources, 2007); also available at <https://www.facebook.com/watch/?v=136092850277964> (accessed 25 March 2019).

[16] The adductor tenotomy (cutting the origin tendons of the adductor muscles of the thigh) and obturator neurectomy (cutting the anterior branch of the obturator nerve) is sometimes performed on children with cerebral palsy. These children often have a hypertonia of the adductor muscles, making abduction difficult, obstructing normal hip development and putting them at risk of hip luxation (see <https://en.wikipedia.org/wiki/Adductor_muscles_of_the_hip>, accessed 28 August 2019). See also the work of Chava Shelhav (*The Feldenkrais Method with Children Who Have Learning Disabilities* (DVD), San Diego: Feldenkrais Resources, undated) and Carl Ginsburg, who describes a lesson Feldenkrais gave in 1981 to an 11-year-old girl with problems similar to Ephram's. Ginsburg describes Feldenkrais's ability to recreate 'the developmental pathway for a child': 'Feldenkrais had developed in himself the possibility of imagining the experience of the child within the limitations of her development' so that he could help her by providing the 'stability' she needed to learn how to organize herself. Ginsburg, *The Intelligence of Moving Bodies*, 178–82. For further information on Feldenkrais's work with cerebral palsy and children, see <https://www.youtube.com/watch?v=M2_G4NWRnNM> (accessed 25 March 2019).

interventions through his hands touching Ephram's body, helping him to find patterns of movement unfamiliar to him that are nevertheless available in his sensorium. The cognitive philosopher Shaun Gallagher notes that 'an intervention that changes the causal relations in a dynamic system will also change the system as a whole'.[17] This is an important observation for Ephram (and for musicians) and supports Feldenkrais's thought; changing one small thing in an interrelated corporeal system can have profound implications for larger-scale changes.

So Feldenkrais waits after each intervention to see what changes have been made. One of Ephram's 'disabilities' at these stopping points is that he cannot communicate with language, and cannot therefore comment on the progress (or lack of progress) of the 'treatment'. He hears the timbre of Feldenkrais's voice, but his eyes do not focus on the location of the voice (in Feldenkrais's face): 'He listens internally; he doesn't even hear what I say,' states Feldenkrais at one point.[18]

Despite these issues, Ephram communicates through his body, the expressions on his face, the sounds he makes (his laughter especially) and a subtle physical dialogue with Feldenkrais. As such, Ephram could therefore be understood as a paradigm of the performing subject (mute–listening–learning) and as a subject undergoing an 'embodied' experience through Feldenkrais's agency.[19] But that Ephram's engagement with the outside world is limited is in some ways a blessing; his 'disability' arguably enables him to be a better prosthesis of Feldenkrais's touch.[20] So well does he respond to this touch, in fact, that Feldenkrais stops at one point and says: 'You see how he listens … so intelligent … so intelligent,' and in so doing Feldenkrais shows that, like musical performance, intelligence can be displayed often better through wordless action than through language.[21]

Ephram's intelligence listens and he learns by integrating into his own body the new suggestions for improved flexibility and movement evoked by Feldenkrais. Integration in an orthodox sense could be understood as the point in a Feldenkrais lesson (or in a person's life) when what was a new or an unusual action/function has ceased to be new and has become part of that person's being-in-the-world. The points at which a person (child or adult) has learnt to ride a bicycle, or at which a piece of music has

[17] Shaun Gallagher, *Enactivist Interventions: Rethinking the Mind* (New York: Oxford University Press, 2017), 10. Gallagher invokes Merleau-Ponty's idea of 'intercorporeality', which he describes as involving 'a reciprocal, dynamic, and enactive response to the other's action, taking that action for an affordance for further action rather than as the occasion for replication (simulation)'. *Ibid.*, 77.

[18] Feldenkrais, 'Functional Integration with Cerebral Palsy, Session I'.

[19] See Wayne Bowman, 'Cognition and the Body: Perspectives from Music Education', *Knowing Bodies, Moving Minds: Towards Embodied Teaching and Learning*, ed. Laura Bresler (Dordrecht and London: Kluwer Academic, 2004), 29–50. The philosopher Jean-Luc Nancy states: 'Listening opens up in timbre, which resounds in it rather than for it […] Resonance is at once that of a body that is sonorous for itself and resonance of sonority in a listening body that, itself, resounds as it listens.' Nancy, *À l'écoute* (Paris: Galilée, 2002); trans. Charlotte Mandell as *Listening* (New York: Fordham University Press, 2007), 40.

[20] Ephram does not have an acculturated desire to 'please the teacher' or to anticipate what the teacher wants.

[21] See Feldenkrais, 'Functional Integration with Cerebral Palsy, Session I'.

been assimilated ('from memory') are good examples of this.[22] The issue for Feldenkrais then becomes one of finding or refinding the key to movement patterns.[23] Through Feldenkrais's touch, Ephram is able to find aspects of movements within himself not just for his legs but for his entire motor organization. To deal with Ephram is not just to deal with his legs or his disability but to engage with the whole person; this philosophy is important to Feldenkrais's method. Ephram is enabled therefore to experience a different self-image from that dictated by his disability and his habitual self-image.

Feldenkrais's suggestions are not mimetic; he does not ask Ephram to imitate what he does, a procedure that is fundamental to instrumental teaching.[24] Instead, he explores playfully what Ephram *can* do and where patterns of movement that lead to a function are unfamiliar to him.[25] He makes a connection to Ephram's sensorium by finding what is easy and pleasurable for him, because in Feldenkrais's thinking this physical pleasure is essential for learning.

Their connection therefore is intimate; it is the connection of one being to another 'resonating from self to self', as the philosopher Jean-Luc Nancy puts it in the context of musical listening.[26] It is clear that the boy is able to do most things that Feldenkrais suggests wordlessly through his touch. Feldenkrais routinely stops working with Ephram when a movement is clear or is too difficult. The stopping is an important part of the process in the method; this allows the brain to assimilate what has just happened and to learn from the experience. These are the moments in the film when Feldenkrais speaks of listening. The theorist David Wills, writing of musical listening, comes inadvertently very close to envisioning something fundamental about the process of FI when he writes:

> Rather than being an intellectual processing of sound after the event of its reception, it [listening] would be an instrumental technology of the body and the mind comparable to those technologies produced by the hands – a *manipulation*, mediation, and processing of sound.[27]

[22] The theorist David Wills might say in a different sense, as he states of listening, that it 'was always already in prosthetic articulationality'. See Wills, 'Positive Feedback: Listening behind Hearing', *Thresholds of Listening: Sound, Technics, Space*, ed. Sander van Maas (New York: Fordham University Press, 2015), 70–88 (p. 82).

[23] On 'forgetting how to' do something after injury, see Jonathan Cole, 'Agency with Impairments of Movement', *Handbook of Phenomenology and Cognitive Science*, ed. Gallagher and Schmicking, 655–70 (pp. 661–2).

[24] Moshe Feldenkrais, *Bodily Awareness as Healing Therapy: The Case of Nora* (Berkeley, CA: Frog, 1997), 23.

[25] Part of Feldenkrais's assumption is that there is inside Ephram a pattern of learning for walking that needs to be activated. His role is to find the key, working out and reproducing the developmental patterns for and in Ephram – part of his 'innate' system, as Gallagher and Meltzoff call it – so that he can learn and improve movement function. On imitation and body schemas in infant children, see Gallagher and Meltzoff, 'The Earliest Sense of Self and Others'.

[26] Nancy, *Listening*, 9.

[27] Wills, 'Positive Feedback', 74.

Stopping is a strategy that allows time for cognitive processing, for sensing the resonance of touch. FI therefore demonstrates a dance of touch *as* listening between two protagonists that then allows each person to listen to the differences within themselves in the space that follows action.

In the case of Ephram, the fact that the child's vision seems to lack focus emphasizes the image for the viewer that Ephram is listening inwardly to Feldenkrais's suggestions. Ephram listens to himself on a fulcrum between what has happened and an unknown future, a vantage point that implies a certain stability and the possibility of an instability inherent in learning a new skill. Like Feldenkrais on his deathbed (quoted at the outset of this study), he listens partly in expectation, in attendance, waiting, groping for sense.

This study addresses this fulcrum through the phenomenon of listening as a hinge between a therapeutic and a musical context. The educational theorist Kimberly Powell has noted with respect to education that:

> Our predilection for theories of teaching and learning that treat the mind and body as discrete entities ignores the ways in which mind is always embodied through interanimation with the world, in which eyes, hands, ears, and nose enable us to make meaning – embodied knowledge in which body–mind dualism becomes bodymind unity.[28]

Feldenkrais's engagement with Ephram obviates Cartesian dualism and creates an exemplar of listening and learning as a form of embodied knowledge. Feldenkrais has argued against the limiting ideal of 'disability'. Some disabilities, as he has shown, are no barrier to embodied learning and improvement; according to Feldenkrais, we are all awaiting enablement at some level.[29] Feldenkrais's interest in Ephram is as a listening and learning subject; his work and this study can therefore be understood as a contribution to what I would like to call *ability* studies.[30] The negotiation and development of a latent capacity to be enabled is as essential to musical practice as

[28] Kimberly Powell, 'Moving from Still Life: Emerging Conceptions of the Body in Arts Education', *International Handbook of Research in Arts Education*, ed. Liora Bresler, 2 vols. (Dordrecht: Springer, 2007), ii, 1083–6 (p. 1083).

[29] On Feldenkrais and disability, see Rosenfeld, 'Teaching the Body How to Program the Brain', 5. See also Feldenkrais, *Awareness through Movement*, 67–8. In the lesson with Ephram, Feldenkrais stops at one point and tells his assembled students, 'Perhaps he [Ephram] will grow up [to be] a strong, nice man like everybody else, maybe better, because he has known trouble and overcome it.' Feldenkrais, 'Functional Integration with Cerebral Palsy, Session I'.

[30] For a guide to disability studies, see Blake Howe, Stefanie Jensen-Moulton, Neil Lerner and Joseph Strauss, 'Introduction: Disability Studies in Music, Music in Disability Studies', *The Oxford Handbook of Music and Disability Studies*, ed. Howe, Jensen-Moulton, Lerner and Strauss (Oxford and New York: Oxford University Press, 2016), 1–14. For an overview of studies in music education and disability, see Adam Ockelford and Graham F. Welch, 'Mapping Musical Development in Learners with the Most Complex Needs: The Sounds of Intent Project', *The Oxford Handbook of Music Education*, ed. Gary E. McPherson and Graham F. Welch, 2 vols. (Oxford: Oxford University Press, 2012), ii, 11–30.

it is to Feldenkrais's method, which attempts, in his words, 'to make the impossible possible, the possible easy and the easy aesthetically pleasurable'.[31]

My interest in Ephram, therefore, is not that he is disabled, but that he has a distinctive ability to learn, and this is also why the Canadian pianist Glenn Gould (like Ephram, born and raised in Toronto) features in this study. The quality of Ephram's condition allows Feldenkrais to make a visible differentiation or improvement to his self-image, and it is what happens after the intervention of touch in Ephram's listening (or in Gould's case, the listening that happens away from the instrument after he has stopped touching it and before he touches it again) that is essential here. Feldenkrais, Ephram and Gould demonstrate different nuances of self-listening and learning in this space. This study integrates for the first time the phenomenological exploration of listening with therapy and musical praxis.[32] Listening is not, however, conflated with either of these contexts, but is examined as a means of improving function. In Part II of this study, I examine the productive confluence of Nancy's and Feldenkrais's thought through the therapeutic lens of Ephram. I address the way in which the subject is configured as embodied and use this to explore a locus for listening as a response to Feldenkrais's interventions, with particular attention to the learning that arrives when action has stopped. This stopping, I argue, places the listening subject (Ephram, and later Gould) on a fulcrum where change in the self-image can happen. The psychoanalytic philosopher Jacques Lacan's thought, which has profound resonances with both Feldenkrais's and Nancy's work, is employed to enhance the discussion of Ephram and his response to Feldenkrais's touch.

Nancy's concern with 'sense' can be deepened through Feldenkrais's somatic thought, in which listening is a function of intelligence and awareness, not just (*pace* Nancy) of presence to the world or the self. Feldenkrais's idea of listening can be thought of as a somatic aid in the process of overcoming 'resistance', a term borrowed from Freudian psychoanalysis. This discourse shows how his understanding of listening is premissed on overcoming what he calls habitual or 'parasitic' movement to permit correct action, to 'know what you are doing so that you can do what you want', as Feldenkrais said.[33]

[31] A saying widely attributed to Feldenkrais in the Feldenkrais community.

[32] This phenomenological turn is pursued in Don Ihde, *Listening and Voice: Phenomenologies of Sound*, 2nd edn (Albany, NY: State University of New York Press, 2007); Peter Szendy, *Listen: A History of our Ears*, trans. Charlotte Mandell (New York: Fordham University Press, 2008); Veit Erlmann, *Reason and Resonance: A History of Modern Aurality* (New York: Zone Books, 2010); Daniel K. L. Chua, 'Listening to the Self: *The Shawshank Redemption* and the Technology of Music', *Nineteenth-Century Music*, 34 (2010–11), 341–55; François J. Bonnet, *Les mots et les sons: Un archipel sonore* (Paris: Éditions de l'Éclat, 2012); François Nicolas, *Le monde-musique*, 4 vols. (Château-Gontier: Éditions Aedam Musicae, 2014–), i: *L'œuvre musicale et son écoute*; and *Thresholds of Listening*, ed. van Maas.

[33] A saying widely attributed to Feldenkrais in the Feldenkrais community. Feldenkrais perceives the 'parasitic' or contradictory set of embodied impulses; the desire to do or stop doing something is coloured by other habitual activities that, although they seem essential and pleasurable, may inhibit the clarity of a movement. Feldenkrais, *The Potent Self: A Study of Spontaneity and Compulsion* (Berkeley, CA: Frog, 1995), 25, 28.

In Part III of this article, I transfer Feldenkrais's ideal of listening to musical practice. While studies have explored motion-capture of the hands *on* the piano keyboard, I theorize what listening/thinking signifies when the hands come off the keyboard. To illustrate and elaborate this point, I discuss Gould's working methods because these demonstrate what can be achieved away from the piano to inform, shape and refine both his image of a musical work and his own self-image through this work in ways that elaborate Feldenkrais's thought.[34]

Gould provides an exemplar of 'spontaneity and compulsion' as Feldenkrais conceives it, as he skilfully negotiates effort and will through self-listening and the process of learning music.[35] I show how Gould uses 'resistance', discussed in the first section, and how his practice invokes and enacts certain strategies of Feldenkraisian embodied awareness to facilitate his extraordinary ability to learn.[36] Through the example of Gould, I interpret listening not merely phenomenologically as a form of knowledge or sense/signification (as Nancy does), but as a form of intersensorial self-negotiation. Listening can be understood, therefore, as a fulcrum of sensing the resonance of past action and waiting for the serendipity of what new action formed by attention without effort will bring.

Finally, this study briefly addresses a form of self-listening as awareness and sensing before doing as a strategy for learning in musical training. What cannot be heard in music cannot be defined, shaped and controlled. Through a discussion and extension of the Weber–Fechner law, a fundamental background principle of the Feldenkrais Method, I contend that other possibilities for listening and musical practice are possible and that reflective practice and somatically grounded ways of teaching and learning need to be more clearly embedded in the educational curriculum.

II. Listening with Ephram's laughter

The study of listening has become a definable arena of musicological study at least since the publication of Nancy's book. I will not attempt to summarize this rich and elusive work here. Rather, I wish to concentrate on a few issues that remain unexplored behind his gustatory style of philosophy and explore how these have 'resonance', an important word for Nancy, with Feldenkrais's listening subject Ephram.

[34] Carl Ginsburg discusses the experience of listening to Gould's recordings, some of Gould's working methods and his refinement and self-organization of his nervous system in *The Intelligence of Moving Bodies*, 153–9.

[35] See Feldenkrais, *The Potent Self*, 6–13. On action and will, see Cole, 'Agency with Impairments of Movement', 655–70.

[36] Gould has drawn attention from disability studies. The musicologist S. Timothy Malony has diagnosed Gould's persona in detail, concluding that Gould was autistic and had a form of Asperger's syndrome. See Malony, 'Glenn Gould, Autistic Savant', *Sounding Off: Theorizing Disability in Music*, ed. Neil Lerner and Joseph N. Straus (New York and London: Routledge, 2006), 121–36.

One of the distinctive aspects of Nancy's thought is the way in which his writing imparts a sense of internal dialogue. To read Nancy's philosophy is not merely to know what he knows (*pace* Pinker), but to sense and imagine the conditions that inform the internal tensions of the subject.[37] Although he does not put it this way, Nancy's ideal of the subject is informed by the Kantian ideal of the subject that observes 'the world from a point of view on its perimeter, pursuing not what is but what ought to be, and enjoying the privileged knowledge of its own mental states', as the philosopher Roger Scruton describes it. That we see ourselves dualistically 'is presupposed in language, in self-consciousness, and in the "practical reason" that is the source of all human action and moral worth'.[38] It is precisely this dualistic ideal that Nancy's philosophy and indeed the Feldenkrais Method seeks to reshape through what Powell calls 'embodied knowledge in which body–mind dualism becomes bodymind unity' (see above, n. 28).

Fundamental to Nancy's discourse is a sense of self-consciousness and an ontology that is never stable, but always aware of itself forming and re-forming. In his book, Nancy mostly discusses sound rather than music, which is not really discussed perhaps because reference to specific pieces of music might compromise his underlying phenomenological message. In particular, he focuses on timbre as a way of partially dissolving the sense of difference between inside and outside the body.[39] This concern with a physical and phenomenological topology is particularly potent in some of his other work, which discusses the mediation of the body through touch, religious iconography and sleep.[40]

The musicologist Lawrence M. Zbikowski has commented:

> Although the body appears throughout Nancy's *Listening*, its role is invariably that of a symbol rather than of a full participant in coming to know sense: the body resounds with sound, but it seems to have lost its capacity to listen, to engage with rather than simply accept (or serve as a receptacle for) sound. Nancy has left the body out of his conception of musical behavior.[41]

[37] Pinker, *The Sense of Style*, 59.

[38] Roger Scruton, *Death-Devoted Heart: Sex and the Sacred in Wagner's Tristan and Isolde* (New York: Oxford University Press, 2014), 123. See also Nancy, *Listening*, 17; Aiden Evens, *Sound Ideas* (Minneapolis, MN: University of Minnesota Press, 2005), 142–8; Anthony Gritten, 'Resonant Listening', *Performance Research*, 15/3 (2010), 115–22; Brian Kane, 'Jean-Luc Nancy and the Listening Subject', *Contemporary Music Review*, 31 (2012), 439–47 (p. 446); Gritten, 'The Subject (of) Listening', *Journal of the British Society for Phenomenology*, 45 (2014), 203–19; and Gritten, 'Depending on Timbre', *Contemporary Music Review*, 36 (2017), 530–43.

[39] Nancy, *Listening*, 38.

[40] See Jean-Luc Nancy, *Noli me tangere: On the Raising of the Body*, trans. Sarah Clift, Pascale-Anne Brault and Michael Naas (New York: Fordham University Press, 2008), and Nancy, *The Fall of Sleep*, trans. Charlotte Mandell (New York: Fordham University Press, 2009).

[41] Lawrence M. Zbikowski, 'Listening to Music', *Speaking of Music: Addressing the Sonorous*, ed. Keith Chaplin and Andrew Clark (New York: Fordham University Press, 2013), 101–19 (p. 106).

This reading of Nancy has some veracity, but it ignores certain precepts of his ideal of listening.

For Nancy, listening is done by a self that is positioned as an involuntary receiver. Sound comes to the self as timbre and forms the subject in the wake of this resonance; the self gropes to *make* sense of sound and of itself through an internal re-sounding.[42] Through an imaginative reading of Nancy it is possible to think of the self as a fulcrum between what has already been heard and new timbres from without clamouring for their place in the listener's consciousness and being.

To impose the apparatus of cognitive musicology on Nancy is useful, but to critique him through this lens (as Zbikowski does) is to create a straw man. Nancy himself states that one of the three 'demands' of his analysis are to 'treat the body, before any distinction of places and function of resonance, as being, wholly (and "without organs"), a resonance chamber or column of [that which is] beyond meaning'.[43]

The musicologist Anthony Gritten has sagely argued that 'the ontology of the subject is auditory: that the subject is constituted as listening', and, following Nancy, that 'listening is rhythmic and is a matter of resonance before it becomes a matter of intentionality and thence signification and identity […] [Resonance] engages the subject before they are even a subject: they are subject to timbre'.[44] Listening therefore forms the 'bodymind unity' of the subject and is *prima facie* embodied.[45] Embodiment is not something added by sound, a surplus pay-off, or merely something that brings awareness or 'sense' to the body through the inception of sound. Rather, although Nancy does not put it so acutely, it is part of our essential 'subjectness'.

This ideal of the subject can be further understood by differentiating cognitivist accounts of embodiment which, as the educational theorist Wayne Bowman explains, 'construe mind as an activity emergent from, structured by, and never wholly separable from the material facts of bodily experience', from an 'enactive version of the embodiment paradigm', in which 'human conceptual, sensory, and motor processes have co-evolved with each other, and are indissolubly linked in each of us'. 'Cognitive capacity', states Bowman with reference to this enactivist paradigm, 'emerges from reinforced neural connections between one's sense and motor system.'[46] So when Nancy states that 'the listener […] is straining to end in sense (rather than straining

[42] Nancy states that we are always 'on the edge of meaning, or in an edgy meaning of extremity, and as if the sound were precisely nothing else than this edge, this fringe, this margin'. Nancy, *Listening*, 7.

[43] *Ibid.*, 31.

[44] Gritten, 'Resonant Listening', 116.

[45] The sense in which music is or is not embodied according to the variables of musical style and rhythm, for example, is a subject not essayed by Nancy. For more on music and embodiment and what he calls the 'mimetic hypothesis', see Arnie Cox, *Music and Embodied Cognition: Listening, Moving, Feeling and Thinking* (Bloomington and Indianapolis, IN: Indiana University Press, 2018).

[46] Bowman, 'Cognition and the Body', 36. On enactivism, see in particular Francisco Varela, Eleonor Rosch and Evan Thompson, *The Embodied Mind: Cognitive Science and Human Experience* (Cambridge, MA: MIT Press, 1991), and Gallagher, *Enactivist Interventions*.

toward, intentionally) or he is offered, exposed to sense', he does so because listening is both transcendental in a Kantian sense (that is, it is a figment of an *a priori* human ability to have cognition) and enactivist (that is, it is made – even before birth – and can be refined and improved).[47]

The implication here is that to improve our listening is also to improve our being-in-the-world and our 'subjectness'. For Feldenkrais, this human 'subjectness' is found in the inherent capacity to learn and to make choices. If the mind is, as Bowman states, 'a profoundly distributed entity' through the body, then it can also be accessed through any part of the body, and this is what Feldenkrais shows in his lessons with Ephram.[48] In this case, then, it is not just, as Wills opines, that sound acts in a process of 'technologizing the listener', but that the listener also has the power to technologize (through sound and himself), just as Ephram and Feldenkrais enactively technologize or mutually construct each other's actions and reactions in a therapeutic sense.[49]

In a Lacanian vein (and Lacan's thought is subdermal in Nancy's book), the listening subject is placed in the register of the Real, understood as an unsymbolizable, 'unassimilable' zone of *jouissance*, of excess and of painful pleasure.[50] In this study, I understand this domain of the Real as the locus where substantive and even traumatic change can occur in the self-image and in the motor cortex of the brain through the intervention of the Feldenkrais Method. Lacan configures the Real with regard to the prelinguistic child who does not yet identify its own image (in a mirror) with itself. Instead, the child's understanding of the world is initially figured through the Mother, and through symbolic appendages (breasts in particular).[51]

Music could easily have been targeted by Nancy (all too crudely) as a similar symbolic prosthetic appendage, one that is given, constructed, but that we do not fully understand. Music entrains the desire of listening, a desire that can be understood,

47 See Nancy, *Listening*, 26.

48 Bowman, 'Cognition and the Body', 36. Gallagher puts this a different way: 'The best answers we have to the question of motor control indicate that most control processes happen at a subpersonal, unconscious level in the elementary timescale […] Both phenomenology and neurophysiology support a combination of perceptual and non-conscious explanations of how we control bodily movements, and they rule out reflective theory in the normal case.' *Enactivist Interventions*, 141. What Feldenkrais discovered, however, is that through awareness of precisely these things, isolating functionality and making small changes through differentiated movements focused on a function, learning and facility can be improved.

49 Wills, 'Positive Feedback', 74.

50 See Jacques Lacan, *The Four Fundamental Concepts of Psychoanalysis (Seminar XI)*, trans. Alan Sheridan (London: Hogarth Press, 1977), 55. For Nancy on Lacan, see Nancy and Philippe Lacoue-Labarthe, *The Title of the Letter: A Reading of Lacan*, trans. François Raffoul and David Pettigrew (Albany, NY: State University of New York Press, 1992), and Nancy, *Listening*, 28–9.

51 See Jacques Lacan, 'The Mirror Stage as Formative of the *I* Function', *Écrits*, trans. Bruce Fink (New York and London: W. W. Norton, 2006), 75–81. When it does come to make a partial identification with its image, the child in Lacan's thought is cut off from the pre-symbolic Real and forever feels this lack. See further Michael L. Klein, *Music and the Crises of the Modern Subject* (Bloomington, IN: Indiana University Press, 2015), 13–17.

in the Lacanian sense, as that which seeks a wholeness that cannot be fulfilled.[52] This desire, then, might account for the function of enabling and disabling that informs so much musical activity (especially composing, practice, performance and listening). This in turn, I would argue, feeds a greater desire to listen into the essence of music itself that escapes us.[53] This is also why listening and desire can be regarded as synonymous; there is no definable end point to either function. Each performance or recording requires and even demands another.[54] But Nancy's focus in his book is not on music, specific pieces of music or 'musical behavior' (as Zbikowski has it), but on timbre. In an extension of Nancy's thought, timbre can be thought of as being in a mutually active relationship with desire (for Lacan, a *cause* of our subjectness) and also as a means of communicating with the unsymbolizable and 'unassimilable' zone of the Real through creaturely flesh.[55]

Sigmund Freud's idea of drives (death, love) and partial objects (breast, faeces, penis) is augmented by Lacan to include the scopic and vocative drive, with the voice and gaze as partial objects or symbolic appendages that feed and nurture the drives.[56] The Slovene philosopher Slavoj Žižek has suggested that we should also augment Lacan's list of drives with the olfactory drive.[57] What I would suggest is

[52] On desire and fulfilment, see Bruce Fink, *The Lacanian Subject: Between Language and Jouissance* (Princeton, NJ: Princeton University Press, 1995), 54.

[53] This aspect of listening is discussed in Robert Sholl, 'Stop it, I Like it! Embodiment, Masochism, and Listening for Traumatic Pleasure', *Thresholds of Listening*, ed. van Maas, 153–74 (pp. 153–5).

[54] Musical performance should therefore be understood as part of an ecology that forms part of what the developmental psychologists Esther Thelen and Linda B. Smith describe as 'characteristic of developing organisms […] self-organization, nonlinearity, openness, stability, and change'. Thelen and Smith, 'Dynamic Systems Theories', *Handbook of Child Psychology*, ed. William Damon, 4 vols., 5th edn (New York: J. Wiley, 1997), i: *Theoretical Models of Human Development*, ed. Richard M. Lerner, 258–312 (p. 267). Gallagher states, 'Dynamic systems theory can be used to explain the complexities of brain function but it can also capture the dynamic coupling between body and environment.' *Enactivist Interventions*, 40; this idea is elaborated on pp. 115–21 and 161.

[55] Lacan states: 'You see, the object of desire is the cause of the desire [*object a*], and this object that is the cause of desire is the object of the drive – that is to say, the object around which the drive turns […] It is not that desire clings to the object of the drive – desire moves around it, in so far as it is agitated in the drive.' Lacan, *The Four Fundamental Concepts of Psychoanalysis*, 243.

[56] In Lacanian terms, a partial object which escapes but shapes desire is called *petit objet a*. Žižek defines this *objet* as 'the pure lack, the void around which desire turns and which, as such, causes the desire, and the imaginary element which conceals the void, renders it visible by filling it in'. Slavoj Žižek, *The Metastases of Enjoyment: On Women and Causality* (London: Verso, 2005), 178. The term 'drive', Laplanche and Pontalis state, is 'generally accepted by English-speaking psychoanalytic authors as a rendering of the German "Trieb": a dynamic process consisting in a pressure (charge of energy, motricity factor) which directs the organism towards an aim. According to Freud, an instinct has its source in a bodily stimulus; its aim is to eliminate the state of tension obtaining at the instinctual source; and it is in the object, or thanks to it, that the instinct may achieve its aim.' Jean Laplanche and Jean-Bertrand Pontalis, *The Language of Psychoanalysis* (London: Karnac Books, 1973), 214.

[57] Slavoj Žižek, 'From *object a* to Subtraction', *Lacanian Ink*, 30 (2007), 130–41 (p. 132).

that this list should be further augmented with the gustatory and – most importantly for the present discussion – the lidless auricular (listening) drive. Drive enacts a perpetual listening and desire to listen. The ear, then, could be conceived of as a partial object. But if – as the neurophysiologist Vernon Mountcastle discovered (and as Doidge comments) – 'the visual, auditory, and sensory cortices all have a similar six-layering process structure'[58] of electrical impulses to the brain, then the ear should be augmented by the hands as partial objects of the auricular drive, or even perhaps (considering the high proportion of water that constitutes a human being) by the entire body.

The subject (Ephram or a performing musician) is therefore framed by the drives, which are in turn framed in gravity; the subject is caught in the gestation of timbre, resonance and touch in a pre-symbolic world and exposed to the traumatic possibility of change embodied in the Real, understood again as the locus where alteration of the self-image can take place. Feldenkrais does not touch Ephram as a 'disabled' boy, but he uses touch to communicate with the child's motor cortex and change his self-image. Ephram is not really disabled in Feldenkrais's thought, but merely waiting for the traumatic possibility of being enabled; he is open to suggestion, prepped as Feldenkrais's subject or (in a more proper Kantian way) open to a reason, just as (reciprocally) Feldenkrais is himself.[59]

This fulcrum of possibility is beautifully revealed at one moment in the lesson with Ephram. Again, action has stopped. Feldenkrais says:

> Can you see what happens, how intelligent he is? That's a combination of movement that he doesn't know, so he stops, and he listens, and he focuses his eyes, and he listens to what this means, and, by the time he knows it, it's like that [that is, he is able to do something].[60]

This description is marvellous because it captures the effect of integration through listening.[61] Through listening, something happens that Ephram does not 'know'. He is given a taste of the pre-symbolic Real for a moment. He does not speak, but instead acknowledges this internal, placeless 'finding' (between visible activity) with chirruping laughter; this giddy delight and uncertainty reflect the trauma of the Real and the way in which the senses are unified in this domain. Nancy

[58] Norman Doidge, *The Brain That Changes Itself: Stories of Personal Triumph from the Frontiers of Brain Science* (London: Viking, 2007), 18. See also Vernon B. Mountcastle, 'An Organizing Principle for Cerebral Function: The Unit Model and the Distributed System', *The Mindful Brain: Cortical Organization and the Group-Selective Theory of Higher Brain Function*, ed. Gerald M. Edelman and Vernon B. Mountcastle (Cambridge, MA: MIT Press, 1978), 7–50.

[59] Nancy, *Listening*, 42.

[60] Feldenkrais, 'Functional Integration with Cerebral Palsy, Session I'.

[61] Feldenkrais, *Awareness through Movement*, 46.

attempts to come to grips with the way in which laughter mediates the senses. He states that,

> Laughter bursts at the multiple limits of the senses and of language, uncertain of the sense to which it is offered […] Laughter is the joy of the senses, and of sense, at their limit. In this joy, the senses touch each other and touch language, the tongue in the mouth.[62]

Ephram's laughter is like a cloudburst. Feldenkrais touches something deeper than just Ephram's sensorium through touch and listening, and Ephram responds with laughter: he touches Ephram's uniqueness.[63] Feldenkrais states: 'You know what that laughter is worth? That is Eureka!' Later, when Ephram laughs again, he observes: 'You see that laughter is priceless; you can't buy it for all the money that you have in the world.' Feldenkrais tacitly acknowledges that in this release, Ephram as a listening being has also withdrawn from him.[64] Nancy might say that essential to listening is a 'withdrawal and turning inward'.[65] Laughter provides evidence of an essential independence that signals and derives from integration.[66]

But Ephram does not *hear*. Feldenkrais does not really speak to him, but mostly to himself and for the benefit of his students and the camera – he is already *turned* inward.[67] Ephram does not hear in Nancy's sense of *entendre*, which, as the musicologist Michael Gallope states, 'implies closure of understanding and truth', but rather in Nancy's sense of *écouter*, which 'implies the openness of negotiation, uncertainty, and exposure'.[68]

[62] Jean-Luc Nancy, 'Laughter Presence', trans. Emily McVarish, *The Birth to Presence*, ed. Werner Hamacher and David E. Wellbery (Stanford, CA: Stanford University Press, 1993), 368–92 (p. 390). Marie-Eve Morin notes that 'for Nancy, to touch is always to touch a limit (and hence not to penetrate into or merge with what is on the other side) and hence to touch the intangible'. Morin, *Jean-Luc Nancy* (Cambridge: Polity, 2012), 65.

[63] Feldenkrais explains in the lesson with Ephram: 'Everything that is being achieved is integrated in a way which gives him surprise, pleasure and pride in his achievement so that he keeps on showing off and builds his own dignity and confidence … its Functional Integration, its not dealing with the muscle. Dealing with a muscle means "cut it", … dealing with the function means dealing with his self-direction.' Feldenkrais, 'Functional Integration with Cerebral Palsy, Session I'.

[64] *Ibid*.

[65] Nancy, *Listening*, 3.

[66] Peter Hallward states: 'Nancy, on the other hand, seeks quite precisely to "touch" being *as* it withdraws from touch. Being is neither touchable nor merely untouchable, is a pure touching untouched by any touched. Rather than abandon being as untouchable, Nancy conceives being through this abandoning, as a touching absolved from the dimension of the touched (but also from anything merely untouchable).' Hallward, 'Jean-Luc Nancy and the Implosion of Thought', *Exposures: Critical Essays on Jean-Luc Nancy*, ed. Ian James and Patrick Ffrench, special issue, *Oxford Literary Review*, 27/1 (2005), 159–80 (p. 169).

[67] On the difference between hearing and listening, see Nancy, *Listening*, 5–6, 32. Also see Wills, 'Positive Feedback', 72–4.

[68] Michael Gallope, review of Nancy's *Listening*, *Current Musicology*, 86 (autumn 2008), 157–66 (p. 158). For a study of the practical ramifications of empathetic listening and negotiation in jazz improvisation, see Frederick A. Seddon, 'Modes of Communication during Jazz Improvisation', *British Journal of Music Education*, 22/1 (2005), 47–61.

Through Ephram's laughter, the external listeners assembled are exposed to a moment when Ephram is on a fulcrum of listening. It is not just that in Nancy's terms he has become present to (him)self, but that he registers the trauma of the Real; Ephram's laughter registers the possibility of change in his self-image. In Nancy's terms this is the 'reference' (*renvoi*) of sound, 'from a sign to a thing'.[69]

But what is this 'thing'? The making of 'sense' within Ephram's sensorium is the *jouissance* of precisely that which does *not* make sense to him, a new self-image which cannot be immediately rationalized or assimilated.[70] So when Nancy states that 'a *self* is nothing other than a form or function of referral, a *self* is made of a relationship *to* self, or of a presence *to* self', this can be considered only part of the story.[71]

One of the functions of FI is to bring the subject into an encounter with what is unknown, moving from the self that is known, founded in gravity and their own body image in the world, to a new image of the self.[72] Ephram's laughter bubbles up; it escapes what is presented to the world as a disabled boy. It is the resonance of an encounter with another self. His listening is an ongoing process of (re-)formation in the irreducible, intimate and non-linear temporal paradigm of 'making the impossible possible', as Feldenkrais has stated,[73] and it is precisely this which is inscribed in the Lacanian Real.[74] His outburst of laughter creates a symbolic cut in the Real that through its differentiation signals the Real: it is like the tip of an iceberg that appears above the water, but in doing so it also signifies that below the water (apart from the rest of the iceberg, which is already integrated with the symbolic register) is the ocean's void.[75]

In Nancy's terms, Ephram is a paradigm of a 'subject of listening [that] is always still yet to come'.[76] With regard to Feldenkrais's 'listening for his next breath', Nancy's question is germane here: 'What does it mean for a being to be immersed entirely in

69 Nancy, *Listening*, 7.

70 *Ibid.*, 9.

71 *Ibid.*, 8.

72 Peter Hallward understands Nancy as meaning that: 'Presenting, or presencing, can only be said as a verb without a subject; presencing is what will come, and what has always been coming, both before and after the subject.' See Hallward, 'Jean-Luc Nancy and the Implosion of Thought', 161. He further states (on p. 171) of Nancy's ontology of the subject: 'The subject can only exist, in other words, as non-subject, as a positing that escapes itself or a reflecting that abandons itself.' In a therapeutic context, Ephram might be thought of as a locus for a 'listening [that] is musical when it is music that listens to itself'. Nancy, *Listening*, 67.

73 A saying widely attributed to Feldenkrais in the Feldenkrais community.

74 Alenka Zupančič, *The Odd One In: On Comedy* (Cambridge, MA: MIT Press, 2008), 51.

75 For more on the symbolic cut, see *ibid.*, 162–3. Zupančič does not use this (iceberg) metaphor, but explores the symbolic cut through Lacan's statement, 'The cry does not stand out against a background of silence, but on the contrary makes the silence emerge as silence.' Lacan, *The Four Fundamental Concepts of Psychoanalysis*, 26. Hallward places the importance of Nancy's philosophy in a way that resonates with this thought. For Hallward, 'It lies in the rigour and the persistence with which he subtracts a presenting of the world from what can be presented of the world itself.' Hallward, 'Jean-Luc Nancy and the Implosion of Thought', 177.

76 Nancy, *Listening*, 21.

listening, formed by listening or in listening, listening with all its being?' – and one might add here: 'listening to all his being'.[77] In this spirit of enquiry we might listen with Feldenkrais and ask: 'Is it indeed possible (or desirable) to listen to all of another person's being?'

This is a crucial question, and one fundamental to FI, because listening for Feldenkrais is a sensing through his hands of where someone else is *stuck*; where, through habit or injury, for example, the mind/body entity is momentarily incapable of utilizing a deeper intelligence to improve a function or action. Helping a person to find this intelligence within themselves is one of the primary functions of instrumental lessons and indeed of the Feldenkrais Method. Listening, then, as is shown in Feldenkrais's work with Ephram, is an enactivist engagement with intelligence and awareness, not just with presence to the world or the self (*pace* Nancy).

Feldenkrais's ideal of listening is intimately connected to overcoming 'resistance', a term borrowed from Freud. In their book *The Language of Psychoanalysis*, Jean Laplanche and Jean-Bertrand Pontalis define this concept: 'In psycho-analytic treatment the name "resistance" is given to everything in the words and actions of the analysand that obstructs his gaining access to his un-conscious.'[78] Laplanche and Pontalis point out that while Freud first discovered that resistance was 'an obstacle to the elucidation of the symptoms and to the progress of the treatment', he realized that 'resistance was itself a means of reaching the repressed and unveiling the secret of neurosis' and that 'the interpretation of resistance, along with that of the transference, constituted the specific characteristics of his technique' that was part and parcel of the possibility of a cure.[79]

Feldenkrais extends this in profound ways elaborated through the examples given in this study. Resistance is understood not merely as that which obstructs the change in the self-image; Feldenkrais 'interprets' this resistance as an active means of gaining access to Ephram's motor cortex, rather than the psychoanalytic 'un-conscious'.[80]

[77] Nancy, *Listening*, 4.

[78] Laplanche and Pontalis, *The Language of Psychoanalysis*, 394. See also Sigmund Freud, 'A Short Account of Psycho-analysis' (1924), *The Standard Edition of the Complete Psychological Works of Sigmund Freud*, trans. James Strachey, 24 vols. (London: Hogarth Press and the Institute of Psycho-analysis, 1953–74), xix: *The Ego and the Id and Other Works* (1961), 191–212 (p. 196).

[79] Laplanche and Pontalis, *The Language of Psychoanalysis*, 395. Transference is understood as 'a process of actualisation of unconscious wish'; it is 'the terrain on which all the basic problems of a given analysis play themselves out: the establishment, modalities, interpretation and resolution of the transference are in fact what define the cure'. *Ibid.*, 455.

[80] Freud, 'Inhibitions, Symptoms and Anxiety' (1926), *The Standard Edition of the Complete Psychological Works of Sigmund Freud*, trans. Strachey, xx: *An Autobiographical Study: Inhibitions, Symptoms and Anxiety; The Question of Lay Analysis; and Other Works* (1959), 87–178 (p. 159). Feldenkrais discusses resistance extensively in his book *The Potent Self*. He states: 'When an intended act contradicts a reflex action – although both have been started by the same event – the reflex impulses [Freud's "compulsion to repeat"] arrive earlier, and we feel our body refusing to obey. The reflexively motivated attitude or movement of the body feels as pre-existing to us, and we become aware of *resistance*.' Feldenkrais, *The Potent Self*, 23.

In his lesson with Ephram, Feldenkrais first explores and clarifies Ephram's habitual movement (that is, the clenching of the adductors) from different perspectives, so that Ephram can listen to and become aware of what he is doing *before* he 'reverses the experience of his life', as Feldenkrais states.[81] Feldenkrais therefore uses listening/awareness of Ephram's habitual movement to soften the tonus of his adductors and so allow him to open his legs (the muscular tonus of the adductors affects the tonus of the abductors).

The work with Ephram provides a demonstration of Feldenkrais's maxim: 'When you know what you are doing, you can do what you want.'[82] The story of Gould's practice, as we shall see, is a different way to understand this thought; Gould does not merely economize his desire and drive to play, but uses a number of strategies in which listening, tone and technique are approached from a number of different ways to promote awareness. Like Gould, Feldenkrais does not approach his subject through language, which itself might be a form of resistance, but by touching and non-touching.[83] By wordlessly joining one body to another, Feldenkrais obviates Pinker's 'curse'. Through FI, he addresses what he calls the 'parasitic', the cross-motivation or 'repressed instinctual process', as Freud puts it, that prevents correct, efficient action.[84] For Feldenkrais, the parasitic is manifested in effort and willpower that are the outward signs of impotence.[85] The idea of movement as polymotivational runs

[81] At one point in Ephram's lesson Feldenkrais states: 'We will reverse the experience of his life.' Feldenkrais, 'Functional Integration with Cerebral Palsy, Session I'. Feldenkrais therefore uses precisely what Freud calls 'impulses that are the complete opposite of those which it knows as its own'. Freud, 'Inhibitions, Symptoms and Anxiety', 159. In a more judo-like sense, Feldenkrais 'deflects' the compulsion to repeat pre-existing patterns in order to allow the formation of new ones. Feldenkrais wrote five books on judo: see Reese, *Moshe Feldenkrais*, i, 547. An essential technique of judo is *Inasu*, which refers to the deflection of the opponent's attack by moving abruptly in a direction not anticipated by the opponent. Judo is a foundation of the Feldenkrais Method; see Feldenkrais, *Higher Judo: Groundwork* (London: Frederick Warne, 1962), xi–52.

[82] A saying widely attributed to Feldenkrais in the Feldenkrais community.

[83] Wayne Bowman and Kimberly Powell note that touch is fundamental to the composer and music educationalist Émile Jaques-Dalcroze's thought. In 1921, Dalcroze noted that, 'I came to the conclusion that the motive and dynamic element of music depends not only on the hearing but on another sense. This I took at first to be the sense of touch'; but he also noted that, 'Musical sensations of a rhythmic nature call for muscular and nervous response of the *whole organism*.' Quoted in Bowman and Powell, 'The Body in a State of Music', *International Handbook of Research in Arts Education*, ed. Bresler, ii, 1087–106 (p. 1090). Bowman and Powell (on pp. 1094–5) briefly discuss the Alexander Technique and the writings of Richard Shusterman on 'somoaesthetics', but they do not touch on the Feldenkrais Method.

[84] See above, n. 33.

[85] This thinking developed the work of the French physician Émile Coué, who thought of the use of effort and willpower as manifesting a lack of imagination or ability to use the imagination. See Coué, *Self Mastery through Conscious Autosuggestion* (New York: American Library Services, 1922; repr. London: Forgotten Books, 2013).

counter to Feldenkrais's ideal of movement as essentially monomotivational (without resistance and parasitism), an idea supported by much recent work in neuroscience.[86]

Musical practice can in fact be thought of as a procedure through which polymotivational impulses and activity can be folded into monomotivational activity. The different facets of instrumental playing need to be folded into one action; this is an essential process of musical practice. The ideal of monomotivational movement is one of the reasons work done in the imagination was a fundamental precept of the method.[87] As Gould demonstrates, work in the imagination minimizes resistance and the parasitic, and there is much empirical evidence that supports mental musical rehearsal as a technique, which includes the heightening of 'sensory awareness'.[88]

In *The Potent Self*, Feldenkrais describes the ideal quality of movement as that of 'reversibility': 'At every instant or stage of a correct act it can be stopped, withheld from continuing, or reversed without a preliminary change of attitude and without effort.'[89] The developmental psychologist Esther Thelen develops this ideal when she states that the hallmark of skill is both its stability or reliability and its 'adaptive flexibility'.[90] Thelen and Linda B. Smith remark that 'organisms are also active, as an open system, they live in a kind of disequilibrium (what we will call dynamic stability) and actively seek stimulation',[91] which can be read as a function of the Lacanian ideal of desire articulated above. Listening requires the kind of dynamic stability, and the 'adaptive flexibility', that Thelen and Smith identify as a basis for development.

[86] For a digest of this work, see Daniel Levitin, *The Organized Mind: Thinking Straight in the Age of Information Overload* (London: Viking, 2015), 96–8. Levitin cites Earl Miller, an MIT neuroscientist, who states that our brains are 'not designed to multitask well […] When people think they're multitasking, they're actually just switching from one task to another very rapidly. And every time they do, there's a cognitive cost in doing so' (p. 96). Levitin goes on to show that multitasking actually decreases effectiveness and productivity, or what Feldenkrais would call 'potency'.

[87] Feldenkrais, *Learn to Learn* (San Diego: Feldenkrais Resources, 1980), 9–10; also available at <https://www.feldenkraisresources.com/Learn-to-Learn-Feldenkrais-Booklet-p/1160.htm> (accessed 25 March 2019).

[88] Christopher Connolly and Aaron Williamon, 'Mental Skills Training', *Musical Excellence: Strategies and Techniques to Improve Performance*, ed. Williamon (New York: Oxford University Press, 2004), 224–9.

[89] See Feldenkrais, *The Potent Self*, 113, and Reese, *Moshe Feldenkrais*, i, 284.

[90] Esther Thelen became a Feldenkrais practitioner late in life. She trained under Mark Reese at Indiana University (Bloomington), completing her training in 2002. My thanks to Roger Russell for this information. See Thelen, 'The Central Role of Action in Typical and Atypical Development', *Movement and Action in Learning and Development: Clinical Implications of Pervasive Developmental Disorders*, ed. Ida J. Stockman (San Diego: Academic Press, 2004), 49–73 (pp. 69–71), cited in Reese, *Moshe Feldenkrais*, i, 183.

[91] Thelen and Smith, 'Dynamic Systems Theories', 269. They also state: 'This disequilibrium allows change and flexibility; the idea that too much stability is inimical to change recurs in many developmental accounts (e.g. Piaget, Werner) and is an assumption we also find essential for understanding development.'

Listening, like practice, performance and recordings, is not reversible in the sense of movement, but rather revisits itself: Nancy identifies this as 'return and encounter', an internal resounding.[92] This position is an inherently contingent fulcrum, searching for stability through flexibility. To be on a fulcrum, therefore, is to be in a position of both balance and potential imbalance.

Placed on this fulcrum of listening through FI, Ephram's normative presence to himself and his self-image has been displaced for a while, opening a space that allows change to happen. When action stops, it resounds in his imagination. He listens to his own body as if for the first time. He listens to himself for himself (to his self-image) without the distractions of the outside world. In this, he is an almost ideal listener, 'immersed entirely in listening, formed by listening', as Nancy states.[93] In asking him to pay attention, Feldenkrais places Ephram on this fulcrum, and asks him to listen to new possibilities within himself. Through his listening he is attached like a hose to a tap, to a latent reservoir within himself, waiting to feel what will happen.

III. Listening with Gould's sensorium: between thinking and doing in musical practice

What, therefore, does it mean for a performer – a pianist, for example – to be placed on this fulcrum, and where might this position be located? In an obvious sense, any performer places the sword of Damocles over their head when they place themselves on stage. But the *a priori* question remains of how best to minimize the risk of instability in Thelen's sense.

In his book *Thinking and Doing*, Feldenkrais discusses the nature of right action. He first details through practical, combative and sporting examples how the unconscious records information to show that willpower or effort is useless in action. Instead, Feldenkrais advocates self- or autosuggestion in which singular (that is, not 'parasitic') thoughts occur, and in which action is always completed without will or effort.[94]

For Feldenkrais, this is no substitute for 'systematic training'.[95] But Feldenkrais (in a Freudian vein) describes his interest in the 'person who knows how to actualise thoughts embedded in his unconscious mind instantly, without hesitating or doubting himself, without the resistance of obstructing associations'.[96] He advocates creating 'the

[92] Nancy, *Listening*, 16.
[93] *Ibid.*, 4, 35.
[94] Feldenkrais, *Thinking and Doing* (Longmont, CO: Genesis II, 2013), 8. This work in fact comprises two chapters previously written as an appendix to a Hebrew translation (1929) of C. Harry Brooks's *The Practice of Autosuggestion: By the Method of Emile Coué* (New York: Dodd, Mead & Co., 1922; repr. London: Forgotten Books, 2012), which adumbrates Coué's *Self Mastery through Conscious Autosuggestion*.
[95] Feldenkrais, *Thinking and Doing*, 13.
[96] *Ibid.*, 14.

image of the movement exclusively in the brain'.[97] The object goal of autosuggestion as he reads it is to reduce the time between thinking about correct action and performing an action correctly.[98] Thinking and doing are not the same thing, but correct action is predicated on prior correct thinking.[99]

A clear example of this differentiation can be found in the work of Gould, who provides a model of Feldenkraisian 'spontaneity and compulsion'.[100] In what would be his final interview, with the pianist David Dubal, he states that he is 'at a loss to understand the compulsiveness that accompanies the notion of practice' which becomes obsessive for many others so that 'the relationship to the instrument remains secure'.[101] This implies, in Feldenkraisian terms, that Gould has reached a level of 'maturity' that obviates the need to act compulsively in this aspect of his life.[102] For Gould, fingering (for many pianists a necessity) is unimportant because 'a fingering is something which springs spontaneously to mind when one looks at a score'.[103] For Gould there is a direct link in his sensorium, built into himself through his practice, between his imagination and touch founded in an internal listening with a minimal sense of resistance.[104]

97 Feldenkrais, *Thinking and Doing*, 18.

98 *Ibid.*, 21.

99 See Feldenkrais, 'The Delay between Thought and Action is the Basis for Awareness', *Awareness through Movement*, 45–6.

100 See Feldenkrais, *The Potent Self*, 6–13.

101 David Dubal, 'Interview with Glenn Gould', *Reflections from the Keyboard: The World of the Concert Pianist* (New York: Schirmer, 1997), 193–8 (p. 195).

102 Feldenkrais, *The Potent Self*, 8. Feldenkrais defines potent activity as the 'sort of behavior we encounter in well-matured persons […] we gradually take responsibility for our own actions […] In those planes of life in which our maturity is least developed, we continue acting compulsively, we do (or we do not do) things knowing perfectly well that we want the exact opposite. Under these circumstances impotence appears.'

103 Dubal, 'Interview with Glenn Gould', 195.

104 See Lutz Jäncke, 'The Motor Representation in Pianists and Violinists', *Music, Motor-Control and the Brain*, ed. Eckhart Altenmüller, Mario Wiesendanger and Jürg Kesselring (Oxford: Oxford University Press, 2006), 153–72. In neuroscientific terms this might be understood as the brain making 'representations' of the world (the keyboard). See Gallagher, *Enactivist Interventions*, 13–21, and for anti-representationalist arguments, see pp. 83–106. These arguments prefer to see 'action [as that which] involves temporal processes that can be better explained in terms of dynamic systems of self-organizing continuous reciprocal causation' (see p. 105 and reworded on p. 161). Gould's process seems to imply both these ideas, because the mental image is so strongly linked to an image of the physical realization. His internal process might be thought of as an attunement and a reconfiguration of a basic representation that can be 'dynamically' transferred to different situations (new pieces of music). Gould's process, I would argue, relies on memory and imagination as 'an active engagement with possibilities' coupled to perception (see Gallagher, *Enactivist Interventions*, 188, 193). The possibilities or 'affordances' (a term used by the psychologist J. J. Gibson) give or create possibilities for learning through 'action and interaction', as Ginsburg puts it. Gibson's thought here is remarkably similar to Feldenkrais's ideal of an ATM lesson, which creatively explores different possibilities for such action. See Ginsburg, *The Intelligence of Moving Bodies*, 149–51.

This listening was developed through systematic technical training, through a shedding of resistance and the parasitic. As Kevin Bazzana states in his biography of the pianist,

> It is true, as he claimed, that he practised little as an adult, but in his youth he practised for hours on end, with endless patience and concentration beyond even [Alberto] Guerrero's standard of perfectionism. The secure, preternaturally refined, and almost infallible technique for which he was so justly revered, though based on innate gifts, was thus built up the hard way, under his resourceful teacher.[105]

Bazzana describes all sorts of preparatory exercises that Guerrero created in order to mould Gould's technique.[106] In a Feldenkraisian sense of FI or ATM, some of these exercises provided different ways of addressing certain pianistic functions.[107] One of the most time-consuming was 'tapping', which focused on an awareness of the muscular effort after the key had been depressed. This position of the key represents a point, after a sound has been made, when the pianist can listen not only to the sound produced but internally to the muscular effort used to produce it.

In his conversations with the journalist Jonathan Cott, Gould gives further examples of internal listening.[108] He describes a way of surmounting a mental block concerning bars 135–6 in the third movement of Beethoven's Piano Sonata op. 109

[105] Kevin Bazzana, *Wondrous Strange: The Life and Art of Glenn Gould* (New Haven, CT, and London: Yale University Press, 2003), 73. Bazzana cites a story by Ray Dudley (a fellow pupil), who recalls, 'Gould was devastated by a minor memory lapse in an early conservatory concert, so Guerrero taught him to learn scores away from the piano.' 'By his late teens', Bazzana states, Gould 'was spending more time studying scores than practising them'. *Ibid.*, 68.

[106] The 'learned nature of practice' is discussed by Andreas C. Lehmann and Harald Jørgensen in 'Practice', *The Oxford Handbook of Music Education*, ed. Gary E. McPherson and Graham F. Welch, 2 vols. (Oxford: Oxford University Press, 2012), i, 677–93. Ioulia Papageorgi and Graham Welch underline the importance of the 'neuropsychobiological design' and the 'biography of the individual' within an 'interrelated, socio-ecologically nested system' in development and learning and a 'symbiotic link between musical learning and the formation of musical identities'. Papageorgi and Welch, 'How Do Musicians Develop their Learning about Performance', *Advanced Musical Performance Investigations in Higher Education Learning*, ed. Papageorgi and Welch (Farnham: Ashgate, 2014), 171–86 (pp. 172–3). For an overview of practice, see Peter Miksza, 'A Review of Research on Practicing: Summary and Synthesis of the Extant Research with Implications for a New Theoretical Orientation', *Bulletin of the Council for Research in Music Education*, 190 (autumn 2011), 51–92.

[107] These include 'gripping a vase as it is pulled away; squeezing a rubber ball; "clapping" firmly with one hand (imagine catching a fly with one hand); rotating the wrist or elbow while keeping the hand loose; practising with one hand while holding it with the other [this in particular approximates what happens in FI when the weight of a person's limb is taken over by the practitioner to remove the sense of gravity from the student, allowing them to be on a fulcrum where they are able to sense other possibilities of movement]; playing scales as smoothly as possible with just one finger; moving it [the finger] with the upper arm only; and practising on a table or using silently depressed keys in order to find the correct weight and voicing for chords.' Bazzana, *Wondrous Strange*, 72.

[108] Jonathan Cott, *Conversations with Glenn Gould* (Chicago, IL: University of Chicago Press, 2005).

(Variation 5).[109] To overcome this block, Gould placed beside the piano 'a couple of radios, or possibly one radio and one television', and turned them up 'full blast'. He says: '[I] turn[ed] them up so loudly that, while I could feel what I was doing, I was primarily hearing what was coming off the radio speaker or, better still, both. I was separating at this point my areas of concentration.'[110]

There are three Feldenkraisian ramifications of this story that pertain to listening and that are not addressed in performance-practice literature.[111] First, in the Feldenkrais Method, one technique of improving the quality of a movement or function is to make a constraint, and then take the constraint away. The constraint creates a form of artificial resistance that, as also with Freud, becomes intrinsically part of the solution (cure). This strategy creates a remarkable effect of allowing greater flexibility, and it is used by Feldenkrais in his lesson with Ephram. Secondly, Gould seems to be forcing himself – through this constraint – to resist polymotivational listening and to focus on a form of monomotivational listening. Thirdly, the constraint enables Gould to listen to the movement separately from the sound itself.[112] By disrupting his habitual pattern of listening and playing, Gould's strategies correlate with Feldenkrais's statement: 'Performance is improved by the separation of the aim from the means.'[113]

Gould then speaks to Cott of an 'analytical completeness' that is 'theoretically possible as long as you stay away from the piano. The moment you go to it you're going to diminish that completeness by tactile compromise.'[114] This process of building up an image of a piece through internal listening is described in the interview with Dubal when Gould explains his preparation in the weeks leading up to his recording of Brahms's Four Ballades, op. 10. Gould states that he started work on these pieces two months before the recording, and that 'for approximately the next six weeks I studied the score from time to time, and developed a very clear conception of how I

[109] On strategies for overcoming performance anxiety, see further Ioulia Papageorgi and Reinhard Kopiez, 'Psychological and Physiological Aspects of Learning to Perform', *The Oxford Handbook of Music Education*, ed. McPherson and Welch, i, 731–51. Gould's issue with Beethoven's op. 109 illustrates all three sources of anxiety: 'physiological arousal, cognitive anxiety, and the task itself' (p. 739), but his approach to solving the issue is more novel than the suggestions made in this study.

[110] Cott, *Conversations with Glenn Gould*, 39. Gould also described playing deliberately 'as unmusically as possible' with the left hand only. Again, this was a way of disturbing habitual action conjoined to listening. *Ibid*., 39–40. Ginsburg discusses Gould's use of radios with Beethoven, to show that 'we often cannot learn when there is anxiety about the outcome'. Ginsburg, *The Intelligence of Moving Bodies*, 156.

[111] The idea of breaking down tasks and partitioning musical learning is a common strategy that is also a form of constraint, but is not theorized in this way. See Lehmann and Jørgensen, 'Practice', 682–4. There is currently no theoretical work which examines how such tasks could be approached in different ways in a Feldenkraisian manner.

[112] It must be added here that the degree to which, through Gould's own practice, the sound is already habitually sedimented in the movement is unknown. A similar effect can be achieved when playing on an electric, weighted keyboard that is switched off.

[113] See Feldenkrais, *Awareness through Movement*, 82–4.

[114] Cott, *Conversations with Glenn Gould*, 40.

wanted to approach the *Ballades*'. Two weeks before the recording, he started playing them on the piano and worked mostly for one hour a day. Prior to this, and in the absence of the piano, he speaks of 'running the *Ballades* through in my head many dozens of times when driving along in the car or conducting them in my studio'.[115] Gould's approach to performance preparation is supported by scientific studies which show that, 'Mental imagery of movements when musicians are imagining themselves playing their musical instrument activates the same cortical networks as are active during the actual performance.'[116]

Dubal then asks what it is like to come back to the piano after such a break. Gould's response complements and validates Feldenkrais's precepts of correct thought that leads to correct action:

> When I do go back I probably play better than at any time, purely in a physical sense, because the image, the mental image, which governs what one does is normally at that point at its strongest and at its most precise because of the fact that it has not been exposed to the keyboard, and it has not, therefore, been distracted from the purity of its conception, of one's ideal relationship to the keyboard.[117]

Here Gould (following the thought of Freud and Feldenkrais) describes the way in which *not* playing provides a constraint that obviates both resistance and the parasitic and facilitates correct action. Gould goes on to confirm this when he states that his first [recorded] 'take' is often the best, 'because the mental image is at that point the strongest and least subject to contradiction by the reality of an improperly adjusted instrument or whatever'.[118] For Gould, the work done in the imagination balanced on a fulcrum of listening is more valuable artistically and pianistically than that which is polluted with action and tempered by the sound of the piano, the studio or the desire for results. To work in such a way is not to subsume the parasitic, therefore, but to cut it off at its source (in the mind).

115 Dubal, 'Interview with Glenn Gould', 197.

116 See Papageorgi and Welch, 'How Do Musicians Develop their Learning about Performance', 178, citing Ingo Gerrit Meister, Timo Krings, Henrik Foltys, Babak Boroojerdi, Mareike C. Müller, Rudolf F. Töpper and Armin K. Thron, 'Playing Piano in the Mind: An fMRI Study on Music Imagery and Performance in Pianists', *Cognitive Brain Research*, 19 (2004), 219–28. See also Hallam, *Music Psychology in Education*, 22, 96–7. Hallam cites studies that examine the way in which 'memory performance might be improved', showing that 'there was superior retention of musical fragments when they were learnt away from the keyboard' (p. 96). Ginsburg discusses another example of Gould (cited in Geoffrey Payzant, *Glenn Gould: Music and Mind* (Toronto: Van Nostrand Reinhold, 1992), 93) mentally rehearsing on his own Chickering piano and holding on to this kinaesthetic image to overcome the problems posed by an unruly instrument in Tel Aviv. See Ginsburg, *The Intelligence of Moving Bodies*, 155–6.

117 Dubal, 'Interview with Glenn Gould', 198.

118 *Ibid*.

Wills has conjectured, following contemporary science 'which increasingly treats sound as a form of *mechanosensation*', that 'the same logic of touch, whether occurring on the skin or as vibration in the ear' occurs as a form of 'sensorial indistinction' at 'the molecular level' as 'types of force'.[119] In this sense, then, Gould's contact with the music through listening can be thought of as a form of intimate touching, as a form of touching oneself or as an attachment to a reservoir, like Ephram, waiting to see what will happen. His sensorium is so developed that he is placed on a listening fulcrum which can be understood as a point where the perpetual undoing of his self is a form of self-negotiation: rethinking and rehearing Brahms's ballades.

This example provides evidence of a listening that is an extremely rich vein of thought for any kind of creative or performing artist. To listen clearly with such minimal 'resistance' implies a hearing that is not parasitic, without thought of failure, without necessary thought to the predicates of performance history, and in fact without deference to the potential listener. For the performer, balanced on a fulcrum, the potential for correct action is already present in the correct thinking of that action.

For investigating this fulcrum further, the study of piano playing by the music-performance scientists Jennifer MacRitchie and Andrew P. McPherson is instructive. They have examined finger movement in piano playing to establish a 'clearer relationship between the continuous motion of the body and the specific touch events it produces'.[120] Rather than focusing on velocity of the fingers, force, arm movement or surface-touch location, one of their particular focuses (using two of Brahms's 51 Exercises (*Übungen*) for piano, WoO 6) is found in Section 3.4.3 of their study, which is entitled 'Finger Movements: Transitions between Notes'. Here they state:

> From the touch QMI [quality measurement and improvement] measurements for both Exercises we can see that in the majority, the keypress action for all fingers is back-loaded, meaning that the majority of the surface movement takes place at the release of the key, in preparation for moving to the next consecutive keypress.

For Brahms's Exercise no. 13, they note that 'the majority of movement takes place between the finger key-contact events', and that,

> Transition behavior between keypresses can contain information regarding the previous and proceeding events. The anticipatory movements that are used within the touch event

[119] See Wills, 'Positive Feedback', 75. Wills cites as evidence Ching Kung, 'A Possible Unifying Principle for Mechanosensation', *Nature*, 436 (July–August 2005), 647–54 (p. 647).

[120] See Jennifer MacRitchie and Andrew P. McPherson, 'Integrating Optical Finger Motion Tracking with Surface Touch Events', *Frontiers in Psychology* (2015), 1–14 (p. 11), also available at <http://journal.frontiersin.org/article/10.3389/fpsyg.2015.00702/full> (accessed 11 March 2019). For similar studies, see Werner Goebl, 'Motion Capture of Piano Performance' (2008), <http://iwk.mdw.ac.at/goebl/pianomocap.html> (accessed 11 November 2016), and Hans-Christian Jabusch, 'Movement Analysis in Pianists', *Music, Motor-Control and the Brain*, ed. Altenmüller, Wiesendanger and Kesselring, 91–108.

> show the intention to move toward the next keypress and the difference in Exercises reflects different compositional demands that will have an effect on the transition movement.

In their conclusion, MacRitchie and McPherson state that, 'These comparisons have the potential to yield insight on motor planning in complex passages.'[121]

This scientific study affirms that movement is continual. What MacRitchie and McPherson describe as 'intention to move toward the next keypress' shows that in the activity happening on and above the keyboard, thought is very closely aligned to if not within action. Listening occurs continually from before the note is pressed through to the end of the note and then on to an anticipation of the next note. The pianist is continually on a fulcrum of listening, forgetting what has been played and remembering (through 'bodymind unity') what is about to be played.

What interests me here is whether there is a point, not discussed in scientific studies, when action can be reversed, stopped or altered. Is there, between one note and the next, a fulcrum, a point that is neither that which came before nor that which comes afterwards? Would this be a point in which listening can occur (as in Feldenkrais's therapeutic practice) between actions? From a scientific, motor-capture perspective, I am not certain whether it would be possible to see this, and from a practical perspective, would this position be possible or even desirable? If it were, it might reveal a position which is not imbued (*a priori*) with compulsion, even as part of a correctly thought act, as Feldenkrais has it.[122] It would be a position pregnant with potential but with the possibility of not-playing, an issue that is signalled by the Italian philosopher Giorgio Agamben with reference to Gould's decision to leave the concert platform.[123] While Gould made a decision not to play in public, of course he still played. Through the prosthesis of recording he came to listen to the sounds and the habits made by his own body and mind. But Gould arguably transferred (or sublimated) one compulsion to another; through the recording process, arguably, he gave himself more control over when the spontaneity and compulsion could be released into action.

[121] MacRitchie and McPherson, 'Integrating Optical Finger Motion Tracking with Surface Touch Events', 11.

[122] Feldenkrais, *The Potent Self*, xl.

[123] Gould famously stopped playing in public in 1964, and became a recording artist only. See further Glenn Gould, 'The Prospects of Recording', *The Glenn Gould Reader*, ed. Tim Page (London: Faber & Faber, 1984), 331–57, and Tim Hecker, 'Glenn Gould, the Vanishing Performer and the Ambivalence of the Studio', *Leonardo Music Journal*, 18 (2008), 77–83. Agamben writes: 'Only a power that is capable of both power and impotence, then, is the supreme power […] This means that, even though every pianist necessarily has the potential to play and the potential to not-play, Glenn Gould is, however, the only one who can *not* not-play, and directing his potentiality not only to the act but to his own impotence, he plays, so to speak, with the potential to not-play. While his ability simply negates and abandons his potential to not-play, his mastery conserves and exercises in the act not his potential to play […], but rather his potential to not-play.' Giorgio Agamben, *The Coming Community*, trans. Michael Hardt (Minneapolis, MN, and London: University of Minnesota Press, 1993), 35.

What I have shown is that while Ephram needed Feldenkrais to awaken a locus where substantive changes to the self-image could take place (which I have connected to the ideal of the Lacanian Real), Gould found ways to do this for himself. Gould's practice, for instance, shows that there is a difference between the listening that happens while playing, on the one hand, and listening to oneself in the recording studio, on the other. The recording process was particularly useful to Gould: it allowed him to hear whether there was a gap between the way in which he heard himself (that is, his musical self-image) and the way in which he might be heard externally or by others; but it also afforded him a means to change and manufacture his self-image through sound.[124] The process of recording became a means of shaping an interpretation which can be understood as a form of presenting his self-image or musical persona to the world.[125]

Through the process of recording, Gould uses himself and his listening to himself to facilitate improved practice and performance. On the evidence of Gould mimetically singing along to himself when playing, or conducting his own recording during the post-production process of recording Scriabin's *Désir*, op. 57 no. 1, he was certainly not always free from compulsion and parasitic action.[126] Perhaps following Feldenkrais, the spontaneity of his work arises not despite but out of such compulsion.[127] This ability to control the parasitic is, in Feldenkrais's terms, a maturity founded in choice and a point of self-awareness that he associates with human freedom.[128]

IV. Conclusion

This article has sought to show how Nancy's work has a psychoanalytic and embodied quality that is brought out and reorientated by Feldenkrais's awareness-based therapeutic listening. The discussion has centred on what happens at ontological, embodied, psychoanalytical and critical levels to the self-image of particular subjects (Ephram and Gould) between thinking and doing. The soundings from the therapeutic context in the first half of the study are concretized in the work of Gould as a fascinating case of what can be achieved away from an instrument. In conclusion, I wish to comment on some ramifications of Feldenkrais's thought for musical practice and the current culture of musical performance and performer training in education.

[124] This again invokes Gallagher and Meltzoff's gap between the 'body schema' and 'the perception of the body', which is 'never equivalent'. See Gallagher and Meltzoff, 'The Earliest Sense of Self and Others'.

[125] In Lacanian terms, the recording process therefore provides a kind of equivalent process by which the child, staring at himself in his Mother's arms in the mirror, comes to recognize himself as *that* child. See Lacan, 'The Mirror Stage as Formative of the *I* Function'.

[126] See <https://www.youtube.com/watch?v=JllD47HIees> and in particular <https://www.youtube.com/watch?v=chHJdmyIiRk>, in which Gould air-conducts his own recording.

[127] Feldenkrais, *The Potent Self*, xl.

[128] Feldenkrais, *Bodily Awareness as Healing Therapy*, 37.

Anyone who walks along a practice corridor in a music conservatoire will be struck by the sound of incessant doing. Look through one of the usually small windows in each door, and you might see a student practice a short passage (perhaps something technically and artistically complex), lift their hands off the keyboard and immediately repeat it (practice time in a conservatoire is at a premium). So what happens in between instances of playing, when *not* touching the keyboard? What type of change in listening and sensing can happen at this point? Does the intention change between lifting, or does the desire – a groping towards an inchoate ideal of perfection – only increase? Stopping at this point on a fulcrum of non-doing, of negotiation between undoing, critically reflecting on the past and beginning again, might halt the incessant desire to do, or to work out a solution (a cure) through doing (an idea at the heart of Gould's critique of pianists who need to touch the keyboard). It allows a space for the observance of small somatosensory and musical changes, the perception of different possibilities of action and the space for something to happen in the motor cortex that has the potential to change the self-image.[129]

To think of listening in this way would be to modify the Weber–Fechner law, according to which any decreased effort concomitantly facilitates a greater sensitivity.[130] I contend that this can be reconceived: a decreased physical 'effort' can also facilitate an increased sensitivity in listening and the imagination, an idea that is also reversible.[131] I would also like to add, in a somewhat speculative vein, that when a space is created in the motor cortex which is taken up not with the desire and drive to do, but with decreased effort and without the resistance of the instrument or the presence of parasitic movement, this listening space might allow room for the brain to do other things, such as to reconceive or refine interpretation, to refine motor coordination and even perhaps to memorize music more easily.[132] These perspectives allow us to understand something of what Gould was trying to achieve in his work on the Brahms ballades away from the piano.

Ephram demonstrates another ramification of what can be learnt from Feldenkrais's thought on listening: doing and effort occur in relationship with gravity. One of Feldenkrais's great discoveries in this regard was that by taking the weight of a limb – by picking up Ephram's leg while he lies on a table, for instance – Feldenkrais could

[129] Mark Reese shows how Feldenkrais was much impressed not only by Zen philosophy and the work of D. T. Suzuki, but also by the work of G. I. Gurdjieff, who devised mindfulness exercises for stopping. See Reese, *Moshe Feldenkrais*, i, 252 (on Suzuki) and in particular 430–47 (on Gurdjieff).

[130] Here is an example of this law: if a person tried to lift a grand piano and a fly landed on it, they would be unable to discern the change because of the amount of effort and the increased muscle tonus required for this action. However, if the same person lifted a feather, the lack of effort required would allow them to feel the difference in weight when the same fly settled on the feather.

[131] See Feldenkrais, *Learn to Learn*, 5, and Reese, *Moshe Feldenkrais*, 192–3.

[132] For an overview of the science of memorization, see Caroline Palmer, 'The Nature of Memory for Music Performance Skills', *Music, Motor-Control and the Brain*, ed. Altenmüller, Wiesendanger and Kesselring, 39–53.

take over the function of gravity. This allows Ephram to let go of the unconscious effort involved in the movement of his leg, which is intimately connected to his self-image. The removal of gravity allows Ephram a space of possibility to change his habitual movement patterns when restored to standing; at the end of the lesson his heels are clearly able to touch the floor in walking. By removing gravity, Feldenkrais diminishes Ephram's conscious responsibility for himself: his disability is significantly disabled as his listening to himself is allowed through Feldenkrais to be almost weightless.[133] To stop and to be aware of and resist the motivation to *do* (to touch the piano rather than sense, feel or mentally prepare correct action) in musical practice might have a similar function to the removal of gravity.[134] A controlled or entrained 'weightlessness' of thought might allow the freedom to listen more fully, and to create a space for something else – 'the impossible made possible'[135] – serendipitously to arrive.

Feldenkrais's perception that correct, monomotivational thought entails a vision of a completed (correct) action without willpower or effort implies a refined listening as a form of awareness that can act as a powerful way to engage the unconscious in the learning process.[136] The examples I have taken – Feldenkrais, Ephram and Gould – all wait on this fulcrum of non-doing, searching for a completed action in their thinking bodies. By rethinking the context of the Weber–Fechner law in the way I have suggested, I propose that listening is not merely something that is done in music practice, but something that should be employed as a distinct strategy. A performer can listen to themselves in order to assess the correct relationship between completion of an action in thought and the effort used to accomplish the task. This dialogue, I would argue, can have a profound impact on instrumental virtuosity, which in Feldenkraisian terms can be understood as knowing what you are doing so that 'you can do what you want'.

Such an internal listening might also go some way towards changing the gladiatorial shadow-boxing and the culture of stress and strain that dominates the continual

[133] This is similar to what Gould does when he takes the weight of one hand with the other when practising. But the difference here is that Feldenkrais takes over the weight of and the agency for Ephram's leg, for instance, while Gould still has power over his own hand.

[134] I am not suggesting that motivation should be removed – it is a life-blood of musical practice – but that it is should be channelled and honed in a different manner. On motivation, see Susan A. O'Neill and Gary E. McPherson, 'Motivation', *The Science and Psychology of Musical Performance: Creative Strategies for Teaching and Learning*, ed. Richard E. Parncutt and Gary E. McPherson (Oxford: Oxford University Press, 2002), 31–66, and Susan Hallam, 'Motivation to Learn', *The Oxford Handbook of Music Psychology*, ed. Hallam, Cross and Thaut, 479–91.

[135] A saying widely attributed to Feldenkrais in the Feldenkrais community (see above, p. 405).

[136] For en excellent summary of *Thinking and Doing*, see Hillel D. Braude, 'Between Psychology and Philosophy: A Review of "Thinking and Doing" by Moshe Feldenkrais', *Feldenkrais Research Journal*, 5 (2016), <http://iffresearchjournal.org/fr/system/files/FRJ-5-Braude-160530.pdf> (accessed 11 March 2019).

proving-ground of modern conservatoire training.[137] There is much pressure on today's conservatoire student to be (already) a professional musician; this is particularly the case when they see student colleagues obtaining jobs in orchestras or enjoying success in competitions. Students can all too easily find themselves caught between the internal demands of their institution and external pressures; the time to experiment and to find one's voice or individuality is being eclipsed.[138] Another example of the demands placed on students is found in competitions that often ask them to prepare hours of repertoire (for several rounds) in advance, in what is an unrealistic simulacrum of contemporary concert life. The (non-)thinking here appears to be a quasi-masochistic, contractual sense of 'what won't kill you might make you stronger'. Arguably, even so-called elite institutions, with or without departments of scientific-performance research or music psychology, struggle to integrate themselves with the contractual and quasi-masochistic obligations of the profession. What Bowman and Powell call the 'notion of music education as aesthetic education' in such institutions seemingly lags behind other schools concerned with drama and theatre, where reflective practice and somatically grounded ways of teaching and learning are arguably more clearly embedded in the curriculum.[139] The enhancement of 'aesthetic sensitivity' should be understood as cooperative with technical skill.[140] Indeed, both should ideally be subsumed under the ideal of *techē*: they are part of the craft of making, knowing (practical knowledge) and applying knowledge through artistic creation.[141]

The kind of activity shown in the paradigm between Ephram and Feldenkrais shows a listening that is embodied, enactivist, but – crucially for musical education – patient and without concrete expectations. Both participate in a listening without defined goals and without measuring sticks of success and failure. Such a listening applied to musical practice might even allow a space in which musical practice is allowed to become more sensitive – more 'potent' in Feldenkrais's thought, and possibly more 'transcendental' in both the philosophical and physical senses of the word. Feldenkrais thought of his method as a means whereby each individual could gain awareness and

137 See further Kate Liley, 'The Feeble Fingers of Every Unregenerate Son of Adam: Cultural Values in Pianists' Health and Skill Development' (Ph.D. dissertation, Royal College of Music, London, 2019). See also Glenn Gould, 'We Who Are About to be Disqualified Salute You!', *The Glenn Gould Reader*, ed. Page, 250–5.

138 For some work around this topic, see Helena Gaunt, 'One-to-One Tuition in a Conservatoire: The Perceptions of Instrumental and Vocal Students', *Psychology of Music*, 38 (2010), 178–208. See also Anna Zabuska, Jane Ginsborg and David Wasley, 'A Preliminary Comparison Study of Burnout and Engagement in Performance Students in Australia, Poland and the UK', *International Journal of Music Education*, 36 (2018), 366–79. More positively, there is now a Healthy Conservatoires Network (Conservatoires UK) funded by the Arts and Humanities Research Council; see their forthcoming website <www.healthyconservatoires.org>.

139 Bowman and Powell, 'The Body in a State of Music', 1089.

140 *Ibid*.

141 See further Cecilia de Lima, 'Trans-Meaning: Dance as an Embodied Technology of Perception', *Journal of Dance and Somatic Practices*, 5 (2013), 17–30.

potency in their actions and could then be in a position, in a somewhat utopian vein, to transform the society in which they operate.[142]

To listen to oneself, to the quality of one's own sensorium, is to listen to the quality of movement in the body: the tonus of the area between the eyes, and the connections between the jaw, neck, spine, ribs, hands, pelvis and feet, and the ways in which these parts of the body work in action. It is to listen to how parasitic and polymotivational activity can be transformed into monomotivational activity. But to listen to the sensorium most clearly requires stopping to allow a listening to the possibility of change. Sometime in the future, while walking along a corridor at a conservatoire, it may even be possible to listen to the sound of not doing, and to listen to oneself think.

ABSTRACT

This study addresses listening as a hinge between therapeutic and musical contexts. In the first two sections I examine the productive confluence of Jean-Luc Nancy's thought and Moshe Feldenkrais's somatic practice. I show that the 'subject' is configured as both embodied and enactivist. Drawing on Nancy's work, Jacques Lacan, Sigmund Freud and educational and developmental child psychology, I position the listening subject on a fulcrum of balance and imbalance essential to learning and musical practice. In the third part of this study, I concretize Feldenkrais's ideals of correct action and listening in musical practice. Using Glenn Gould and empirical work on musical practice, I explore the significance of listening between acts of playing. Listening is proposed not merely as a phenomenological form of making *sense* (Nancy), but as a form of self-negotiation and an enactivist and imaginative space that leads to new possibilities of thought and refinement of action.

[142] See Feldenkrais, 'Introduction: Love Thyself as Thy Neighbor', *The Potent Self*, xxxvii–xliv.