

Reflecting on Reflex

or Another Touching New Fact about Chopin

J . Q . D A V I E S

The organ of the ear sometimes provokes very bizarre sympathetic movements, which, in all probability, have their source in the ganglionic system....

I know a distinguished pianist, of tremendously nervous temperament; he often has trouble urinating, and often is subject to all possible trouble [*toutes les peines du monde*] without being at liberty to satisfy his needs; yet whistling or a few chords on the piano frees this obstruction in an instant.

The intimate connection existing between the human ear and the abdominal viscera by the sympathetic nerves permits these organs to have a significant influence upon the organ of hearing.¹

Polish Disease

THE WORDS YOU HAVE JUST read formed part of an argument made by Jan Matuszyński that was examined on 16 August 1837 behind the great gated colonnades of the École de Médecine in Paris. The School was a celebrated institution, the foremost of its kind in Europe. The occasion was the *soutenance* of a doctoral thesis entitled “The Influence of the Sympathetic Nervous System on the Function of the Senses.” A jury of two professors and two proctors in gowns and mortarboards guarded the solemnity of its passing. For young initiates, such trials were crowning achievements in four years of medical training. Largely symbolic, they marked entry into the establishment — literally in the case of Matuszyński, in that he would join the faculty in the years to come. One hundred copies of his thesis, issued by the School, were

¹ “L’organe de l’ouïe provoque quelquefois des sympathies très-bizarres qui, selon toutes les apparences, ont leur source dans le système ganglionnaire....

Je connais un pianiste distingué, d’un temperament très-nerveux; il éprouve souvent des difficultés d’uriner, et subit quelquefois toutes les peines du monde sans pouvoir satisfaire à ce besoin; alors le sifflement ou quelques accords du piano le débarrassent à l’instant de cette incommodité.

L’intime connexion qui a lieu entre l’oreille interne et les viscères abdominaux par les nerfs sympathiques permet à ces organes d’avoir à leur tour une influence marquée sur l’organe de l’ouïe.” J. Matuszyński, *De l’influence du nerf sympathique sur les fonctions des sens* (Paris: Faculté de médecine, 1837), 32.

printed for circulation amongst benefactors, colleagues, family, and friends.² Among these last, no doubt *in situ* to witness the occasion, was the graduand's closest companion, former school- and flatmate, the distinguished pianist himself — Frédéric Chopin.

Matuszyński's proud moment had been long in coming. Seven years earlier, the young student had cut short his degree in Warsaw to enlist as a medic in the November Uprising against Russian occupation. Later in 1831, when the insurrection failed, he slipped quietly across the German border and enrolled for a second academic stint at the University of Tübingen. A study of *plica polonica* ("Polish plait") suggested itself — a rare condition of the scalp involving strange matted hair-growth thought endemic to Polish sensibility and the nervous-magnetic emanations that swirled about the ethnic cranium.

But not even "Polish plait" could keep Matuszyński in South-western Germany forever. By 1834, new challenges presented themselves, and in spring of that year (probably early June), he travelled to Paris to renew a friendship he had maintained since his youth. There, having registered on the unfortunately named rue des Boucheries ("Street of the Butchers"), where the School of Medicine stood, the trainee-physician wrote back to his brother-in-law in Poland:

I am living with [Frédéric Chopin] at No. 5 rue de la Chaussée d'Antin. This street is a little far from the medical school and the hospitals but I have strong reasons for staying with him — he means everything to me.³

Matuszyński settled quickly into Parisian life. He and Chopin probably played music together (Matuszyński was a flautist) and went out regularly, attending the theatre and dining on the boulevards nearby. As every Chopin scholar knows, the pianist found Matuszyński indispensable to his moral, mental and physical wellbeing. No one had such intimate knowledge of Chopin's precarious sensibility. Already, as early as 1831, in the last of three celebrated letters written from Vienna before Matuszyński's political exile, Chopin had asked for his friend's complicity in a case of compassionate deception:

I am unwell but I don't want my parents to know. Everyone asks what is the matter with me. I am out of spirits ... [and] have a cold in the head. Anyhow you know what is wrong with me.... Why am I desperately lonely today? Why can't

you be here with me at such an awful time?... Embrace me, for I love you more than my life — write as often as you can.⁴

These are famously tender words — excruciatingly so, as much for what they conceal as suggest. Matuszyński had been Chopin's confidant in confessions of love; in 1836, they apparently formed a pact to choose wives; later that year, the pianist officially witnessed his friend's marriage to Thérèse Bouquet, his own proposal to Maria Wodzinska having failed.⁵

The "what happened next" hardly needs rehearsal. A little more than a year after his medical exam, in the winter of late 1838, Matuszyński began to present signs of tuberculosis. A slow, stereotypically pathetic process of proud Polish capitulation was thus set in motion. Four years later, Chopin arranged for his closest friend — coughing blood, a shadow of himself, bankrupt, and his marriage destroyed — to move to George Sand's apartment on the rue Pigalle. In April 1842, the story goes, Chopin experienced a prequel of his own death. Sand recorded that Matuszyński "died in our arms after a slow and cruel agony which caused Chopin as much suffering as if it had been his own. [Chopin] was strong, courageous and devoted, more so than one would have expected from such a frail being. But when it was over he was shattered."⁶ Thus, far from home, two brothers-in-arms at last went their separate ways.

Such stories carry poignancy. Most of us, aided by years of cultural training, can usefully supply some suitably Chopinesque soundtrack to such narratives. But why rehearse them? Why this need to sniff for Poland? To make Jan Matuszyński's up-close knowledge of his flatmate's medical history explicit? So that we might better imagine touching scenes of two men bending over a chamber-pot, one whistling gently into the other's ear? Now is the time, I suppose, when we hold our collective breath in anticipation of some thrilling musical release: a technical analysis, perhaps, where we reveal all about Chopin's cascading runs or showers of notes? A revised meaning for the "Raindrop Prelude"? What we have here, to be clear, is a new fragment of Chopiniana. These do not come around often. The Great Composer apparently had a problem with urinary retention, readily relieved by a few well-chosen chords on the piano.

⁴ *Ibid.*, I: 249-50.

⁵ For more on the Chopin-Matuszyński relationship, including the letter written by Chopin's father of 9 January 1836, thanking him for his care, see Pierre Azoury, *Chopin Through His Contemporaries: Friends, Lovers, and Rivals* (Westport: Greenwood Press, 1999), 22-32.

⁶ Letter from George Sand to Pauline Viardot of 29 April 1842; see George Sand, *Correspondance*, ed. Georges Lubin, 15 vols. (Paris: Garnier, 1964-1972), V: 647-8.

² For more on these occasions, see Florent Palluault, *Medical Students in England and France 1815-1858: A Comparative Study* (Oxford: University of Oxford, 2003), 252.

³ Bronisław Edward Sydow ed., *Correspondence de Frédéric Chopin*, 3 vols. (Paris: Richard-Masse, 1953-60), II: 130-31.

Letting Go?

There are serious issues to deal with here. What are we to do with such awkward additions to knowledge? How might such information be said to contribute? As I hope I've implied, not everything so unearthed need be useful. There are truths — this seems a good example — which we might not want to know, since their effect is not so much to assist as to despoil the musical imagination. In which case: should we always cheer when scholars (such as myself) emerge from the archive brandishing some new idea, some glistening fact wrenched from ignorance? What gives these questors — with all their sticky Romantic zeal — the right to venture into these forbidden places anyway? Is there nothing to be left sacred?

Worse about this “little fact” is the excitement it is likely to generate among such music-medical bio-pathographers as Ganche, Barry, Franken and O'Shea.⁷ Chopin Studies has its own special branch devoted to the Great Man's litany of illnesses. According to an article in one recent medical journal, Chopin's complaints now include hemoptysis, fevers, gastrointestinal soreness, diarrhea and abdominal pain (particularly after eating fatty pork), vulnerability to heatstroke, infertility, arthralgia, effort intolerance, shortness of breath, productive cough, delayed puberty, and so on. A sample of the cocktail of recently proposed causes of death is more impressive still: “pulmonary tuberculosis, hypogammaglobulinemia, mitral stenosis, allergic bronchopulmonary aspergillosis, tricuspid valve incompetence, Churg-Strauss syndrome, pulmonary hemosiderosis, pulmonary arteriovenous malformation, cystic fibrosis and α 1-antitrypsin deficiency.”⁸ How unfortunate that we must add more to the list.

Since I am no doctor, these big words mean very little. My sense is that their chief effect is to fortify the once-common-sense hypothesis that Chopin's failing body — the fragile life of heart, lungs, nerves, fingers, pelvic floor — in some way grounds the ethereal other-worldliness of his music. All this science, then,

⁷ Keith Barry, *Chopin and his Fourteen Doctors* (Sydney: Australasian Medical Publishing Comp., 1934) (Chopin actually had thirty-three doctors!); Édouard Ganche, *Souffrances de Frédéric Chopin: essai de médecine et de psychologie* (Paris: Mercure de France, 1935); Franz Hermann Franken, *Die Krankheiten grosser Komponisten*, 4 vols. (Wilhelmshaven: F. Noetzel, 1986), I: 186-235; John O'Shea, *Music & Medicine: Medical Profiles of Great Composers* (London: Dent, 1990), 140-54.

⁸ Lucyna Majka, Joanna Gozdzik, Michal Witt, “Cystic Fibrosis: A Probable Cause of Frédéric Chopin's Suffering and Health,” *Journal of Applied Genetics* 44/1 (2003), 80.

propagates the age-old metaphysics: this obsession with infirmity replays time and again the legends that the pianist “had been dying his whole life long,” that he was only ever barely alive, that (weighing less than 100 pounds) he was hardly even present, that he “enjoyed suffering,” that he only seemed “as permanent as his cough” or that, as Moscheles is supposed to have observed, “He resembled his music.”⁹ Here, again, is a discourse struggling to reconcile the mortal life of the man with the immortality, the supposed “divinity,” of his music.

In what follows, this article will change tack. It will turn from its critique of claims that there is always value in being historically informed, that historical knowledge always adds to the pleasure of musical experience. Rather than debunk “little facts” and decry history generally, my argument will end up indulging the old “New Historicism” anyway (in the spirit of Matuszyński's fascination for involuntary or automatic function). Working against itself, the article will recuperate this new-found truth for history, by reading Matuszyński's thesis in terms of the early history of Parisian physiology. Specifically, the medical student's enthusiasm for the physiology of sensing, tact, or touching will be aligned with a musical culture, social comportment and keyboard practice — a “touch” — he knew well.

On the Sympathetic Nerve

Matuszyński's “The Influence of the Sympathetic Nerve on the Functions of the Senses” was in fact a work of considerable bravery. It tackled a primary area of physiological inquiry. Its concerns, moreover, were in no way remote from

⁹ Moscheles' words according to Henley; see Czeclaw Sielużycki, “On the Health of Chopin: Truth, Supposition, Legends,” *Chopin Studies* 6 (1999), 99-155. D'Agoult wrote “il n'y a chez lui que la toux de permanente” in a letter to George Sand on 8 April 1837; see *Marie d'Agoult-George Sand: Correspondance*, ed. Charles F. Dupêchez (Paris: Bartillat, 2001), 147. Mid-century French critic Hippolyte Barbedette wrote that Chopin “was a sick man who enjoyed suffering, and did not want to be cured.” Quoted in Richard Taruskin, *Oxford History of Western Music*, 6 vols. (Oxford: Oxford University Press, 2005), V: 355. Marmontel remembered Chopin in these terms: “Sous les doigts agiles et nerveux de Chopin, les traits les plus ardu, les plus subtils, les contours les plus fins, étaient nuancés, modulés avec une exquise délicatesse. Sous sa main à la fois émue et savante, les phrases de chant élégantes ou expressives se détachaient lumineuses, colorées; en l'écoulant, on restait sous le charme d'une émotion communicative, qui prenait sa source dans l'organisation délicate, le tempérament maladif et impressionnable de l'artiste: véritable sensibilité musicale, qu'Auber définissait d'un mot en disant ‘qu'il se mourait toute sa vie’”; in *Les Pianistes célèbres* (Paris: Heugel, 1878), 3. The myth that Chopin was only ever “barely in existence” is, as Jeffrey Kallberg has suggested (isolating a “supernatural” rather than an “illness” trope), largely the work of his late and posthumous reception; see *Chopin at the Boundaries* (Cambridge, Mass.: Harvard University Press, 1996), 66.

the interests of such non-specialists as Frédéric Chopin. In the history of the neurological sciences and sensibility, the keyboardist at his or her keyboard had always been topical. The question of how the body learnt to “play by itself,” with what we might today call “motor memory,” had been crucial to the field of so-called “animal economy” at least since the 1740s, as shall be seen. Somatic intelligence, automatic action, the idea of thinking with sensibility, of playing by feel: this is what Matuszyński’s thesis was about. His work tackled the problem of sympathetic or automatic movement, organic self-regulation, unconscious bodily activity or apparently “rational” yet involuntary movement. Crucial too was the question of how this all squared in the 1830s with newly pregnant notions of agency, volition, and selfhood.

Matuszyński’s thoughts were forged in the fire of intense scientific debates enveloping the so-called “grand sympathique,” Great Sympathetic, ganglionic or intercostal or tripanchic nerve in the 1820s and 30s. Since the work of Parisian neuro-anatomist François Magendie, whom Matuszyński cited as an authority early in his dissertation, fashionable conceptions of this complex of fibre, ganglia and plexuses spiraling down and around the spine had been radically challenged. The experimental brand of neuro-physiology pioneered during this period had in fact gone so far as to question whether the Great Sympathetic was even a nerve. More provocatively, as we shall see, Magendie had queried whether this nervous core had anything to do with sensibility, sentience, consciousness, sympathy or — that great unquantifiable and for him no-longer-useful category of scientific inquiry — life.¹⁰

The introduction to Matuszyński’s student thesis divides the debate neatly. On the one hand, as he saw it, were second-generation *Idéologues*, a group he himself identified with: thinkers who saw in the dense, all-traversing nerves of the spinal ganglia nothing less than a portrait of sentience itself — a picture of living, animate materiality. These physicians followed Pierre Jean George Cabanis, Balthasar-Anthelme Richerand and particularly Xavier Bichat, the same Bichat who had spent the winter of 1801-1802 (legend has it) holed up in the morgue at the Hôtel-Dieu dissecting some 600 corpses. For



Figure 1 A view of Bichat’s “little brains,” the sympathetic nerve imagined as a line of ganglionic nodes or “stars” running parallel to the spine; H.H. Sherwood, *The Motive Power of Organic Life* (New York, 1841), n.p.

Bichat, the “autonomic,” “vegetative” or sympathetic system constituted not one, but several interlacing nervous systems, a rich tapestry of semi-autonomous “lives,” existing independently of the higher cerebrospinal system. There was the life of nutrition, the life of digestion, circulation, secretion, perspiration: each life with its own distinct “little brain” or ganglion near the sympathetic trunk (see Figure 1). Bichat argued that there was as much contrast between the tissues of the cerebellum and their white, dense cerebral nerves, as there was between each “little (spinal) brain” and their tiny, red-grey, soft, innumerable nerves. On the basis of this homology, he theorized a great division at the core of human experience. All vertebrates, he proposed, lived “two lives”: *une vie animale* (involving the centered experience of a brain-mind) and *une vie organique* (involving the decentered life of the sympathetic system). On one hand was the clear light of volition or rational activity, registering sense through the sense organs and responding thoughtfully to external percepts. On the other was the twilight of unceasing, everyday

secretion, digestion, circulation, perspiration — a visceral automatic system maintaining the body in natural check.¹¹

¹⁰ Marshall Hall summarized the problem of “sympathetic movement” as follows: “[Such movements] have been supposed the function of the rational (Stahl) or irrational soul (Whytt). By some, these movements are attached to the brain; by others as attached to the brain and spinal marrow (Müller, Soemmering, Alison, Whytt); by others as attached to segments in the spinal marrow (Flourens, Mayo), by others as a function of the sympathetic (Tiedemann, Lobstein) or of the pneumogastric nerve (Ball, Shaw);” Hall, “Mémorial II: on the True Spinal Marrow and the Excito-Motory System of Nerves,” *Memoirs on the Nervous System* (London: Sherwood, Gilbert and Piper, 1837), 43.

¹¹ Xavier Bichat, *Physiological Researches on Life and Death*, trans. F. Gold (Manchester, NH: Ayer Publishing, 1977), the original French edition appearing in 1800. See also Michael Goss, “The Lessened Locus of Feelings: A Transformation in French Physiology in the Early Nineteenth-Century,” *Journal of the History of Biology* 12/2 (1979): 231-71.

Such a diffuse vision of the self or *le moi* would have been seditious — anarchic even — had it not been tempered by powerful counter-conceptions of organic sensibility. Particularly for Bichat's followers, the sympathetic system was also a strong unifying agent, which supplied an intimate reference point to the whole. Key to this unifying concept were the body's vital properties, immanent (supposedly) in all organs, fibres, membranes, arteries, veins, cartilage, and so forth. All tissue was liable to life, sensibility being understood here as the material basis for consciousness. Bichat himself had spent long hours classifying every mode of vitality on the basis of every variety of human tissue. For months, he soaked, baked, boiled and dipped human matter in acids and alkalis, becoming in the process the first thinker to apply that word "tissue" to the somatic weave. What Bichat discovered for the body was an irregular space of charged material sensibility, a homogeneous geography of physicalized feeling, a traffic of animate tissue that connected all masses and volumes. His assumption was that this fluctuating space of sensation was held together on the basis of a vital economy regulated at the sympathetic centre. (Figure 2 presents a contemporaneous vision of this traffic of sensible matter.)

Such a replete conception of tissural life spilled powerfully into the work of Matuszyński's mentors at the School of Medicine. François-Joseph-Victor Broussais, however, probably the leading member of the senior faculty, was so devoted to sympathetic unity that he positioned himself against Bichat's theory of absolute ganglionic independence in the 1820s. For him, as for a swathe of physicians in the decade (J.J.C. Legallois, Johann Christian Reil, Johann Lobstein), the "empire of the great sympathetic" (as Broussais called it) was too vital to relegate to automatic life alone.¹² To seal his point, Broussais made several bold intellectual moves. First, he located *le moi* not in Bichat's cerebrospinal sphere but in ganglionic feeling (in digestion, secretion, perspiration, nutrition). As such, Broussais made primary that which had been secondary, in ways that explained why the lower self supervened in the organism at times of stress. His second move anticipated Matuszyński's dissertation exactly, as we shall see. Here, like Matuszyński, he argued against Bichat's assumption that man's

¹² For a full account of this reception of Bichat's system, see Edwin Clarke and L.S. Jacyna, *Nineteenth-Century Origins of Neuroscientific Concepts* (Berkeley: University of California Press, 1987), 332-41. Useful also are J. F. Lobstein, *A Treatise on the Structure, Functions and Diseases of the Human Sympathetic Nerve* (Philadelphia: J. G. Auner, 1831) originally published in 1823 as *De nervi sympathetici humani fabrica*; François-Joseph-Victor Broussais, "Réflexions sur les fonctions du système nerveux en général, sur celles du grand sympathique en particulier, et sur quelques autres points de physiologie," *Journal universel des sciences médicales* 12 (Paris, 1818): 5-43, 129-67.



Figure 2 This "carte topographique du corps humain" presents a vitalist's vision of subcutaneous nervous, sanguiferous, and lymphatic traffic, adapted from the work of Antommarchi's teacher, Paolo Mascagni. Antommarchi is likely to have known Matuszyński, the fiercely political Corsican having rushed from his lucrative practice in Paris to volunteer in Warsaw's hospitals during the 1831 uprising; Francesco Antommarchi, *Planches anatomiques* (Paris, 1826), n.p. BIU Santé (Paris).

sense organs — touch, sight, taste, smell, hearing — only operated in relation to the higher sphere. External sensation, he countered, was very much part of

organic life. Third, Broussais demonstrated the extent to which this lower self asserted its authority in the life of the brain-mind. Citing instances of headless chickens and brain damage, Broussais argued that, though the brain-mind might desire certain outcomes, it lacked direct control of even the most basic of muscular motions. “I can positively affirm,” Broussais wrote in the 1830s, “that the capacity of regulating the muscular movements, or manual dexterity, or dexterity of any kind, [bears no] relation at all to the cerebellum.”¹³ The cognitive center, in other words, was not the first, primary or principle agent of “reason” in the human body.

Such an inversion would have been anathema had it not resurrected dusty, old-hat notions of the body: ideas about the body’s endless co-ordinations and undulations, ideas about so-called “reflex” action pioneered in the 1740s, or conceptions of sympathetic fluxions to and from the spine derived from the 1750s. The word “sympathy,” indeed, drew from ancient wells. The Hippocratic doctrine of the “sympathies” held that all parts of the body were connected, not by tissues or physical substance as for Broussais or Bichat, but by immaterial psychic principles (which explained why the organs could act in “consensus”). Here, the elaborate line of spinal entanglements acted as the source of all sensibility, as the *sensorium commune*, the Great Meeting Place where sense was registered and reactions willed. Life itself circled this spinal imperium, to the point that Broussais, as late as 1828, could still explain all contagion — all disease — on the basis of delicate disturbances in the sensible equilibrium. Interpreted as such, disease was merely the symptom of internal antipathies, which unbalanced the symmetry of the whole. (As late as 1833, 4.5 million leeches were imported into France to countermand, by blood-letting, the increasing debility of the citizen body.) For Broussais, as for Matuszyński, the “sympathies” unified inner and outer life; they threw Bichat’s neat “two lives” notion into peril; they posited the ideal of a body harmonized internally and externally with itself — a body open to the delirious wonder and richness of the sensory and tactile world.¹⁴

¹³ François-Joseph-Victor Broussais, “On the Organ and Propensity of Amativeness,” *On the Functions of the Cerebellum*, ed. and trans. George Combe (Edinburgh: Maclachlan & Stewart, 1838), 132.

¹⁴ For more on the history of “sympathy,” see Edward Shorter, *From Paralysis to Fatigue: A History of Psychosomatic Illness in the Modern Era* (New York: Free Press, 1992), 12-24, where the author argues that “sympathy” was steadily replaced by the modernized notion of “consensus.” See also Alison Winter, *Mesmerized: Powers of Mind in Victorian Britain* (Chicago: University of Chicago Press, 1998) and Evelyn Forget, “Evocations of Sympathy: Sympathetic Imagery in Eighteenth-Century Social Theory and Physiology,” *History of Political Economy* 35 (2003): 282-308.

Time-honored though these ideas were, however, Broussais drew fierce criticism in 1837, as Matuszyński knew well. A new breed of skeptics with Magendie at its helm had attacked the quantitative language still widely used to describe sensible life. Via a series of brutal experiments, mostly on greyhounds, Magendie claimed that there was little material evidence to prove that the ganglionic nerve had anything to do with life. That the Great Sympathetic had no observable function merely furnished evidence for his much more urgent contention that sensibility and contractility, far from being diffused throughout the organism, were qualities localized in the neuromuscular system only. Life, indeed, was other than the Idéologues imagined. For Magendie, it had nothing to do with tissue or visible matter. Life was in the beyond — the self, if anything, was a bi-product of invisible physiological function, structure or form. Naturalist Georges Cuvier, one of Magendie’s staunchest and most powerful supporters at the Academy of Sciences, summarized the position thus:

Life is a continuous vortex...The actual matter of the living body will soon be there no longer, and yet it is the depository of the force which constrains future matter to behave in the same ways as it. Thus the form of these bodies is more essential to them than their matter, since the latter changes incessantly while the former is conserved, and moreover it is the forms that constitute the differences of species, and not the combinations of matter.¹⁵

This take on an immaterial, regenerating self must have been provocative for Matuszyński, but he wasn’t about to bite the hand that fed him. Eschewing experimental ignobility, he followed the higher-minded Broussais in stressing “the intimate rapport” that he believed bound the sympathetic nerve to the five organs of sense. As Matuszyński saw it, the body achieved its healthy balance on the basis of a mysterious *sympathie intime* centered in this *region précordiale*, which maintained the form and texture of organs. The proof of this was to be sought in persons of extreme delicacy such as Chopin. In these subjects, the liaisons occurring between auditory nerves and organs, he argued, were intimate and readily identifiable. Thus surveying the literature, he was able to cite reports of young girls suffering epileptic fits at the sound of tolling bells (Samuel-Auguste Tissot in *Traité des nerfs et leurs maladies*, 1778-80), a man driven mad by the sound of the organ, a lady who according to Jean-Jacques Rousseau could not hear music without laughing, a friend who suffered attacks of *frémissement* when touching the harp, a woman who fainted on hearing

¹⁵ George Cuvier, *Le règne animal distribué d’après son organisation*, 4 vols. (Paris: Deterville, 1817), I: 17.

vocal polyphony. Everyday evidence might be cited: the rasping physiological effect of chalk on blackboard, files on metal, tearing paper; the “asphyxiating” sound of sweeping, or the rustling of silk fabric. And then, of course, there were the delicate nerves of his closest friend, that “distinguished pianist.”¹⁶

Matuszyński, in other words, theorized a sympathology, with the body a delicate harmonic array extending into and outwards from the spinal nerve. He saw the internal organs — arranged centrifugally in consort — perpetually communing and imitating each other. The conformity of the viscera to affections and inclinations bore witness to the miracle of sensory precepts combining in life-giving association. Here, Matuszyński emphasized that the sympathetic nerve was not merely a passive reflector or deflector of sensory life. More than this, it was an active agent, a primitive centre that interpreted sensation back to the tissular whole. It had a creative personality, a sentient ontology that modified every precept it received. In other words, the intensity and finesse of one’s experience of the sensory world had everything to do with the active presence of the sympathetic nerve.

The History of Touch

Matuszyński’s curious conception of touch here was perhaps most cogent to the concerns of Frédéric Chopin. For the medical student, as we have seen, one of the most important tasks of the sympathetic nerve was to rouse the flow of secretions. But the purpose of liquid emanations of all kinds was not merely to dispose of unwanted bodily waste. More than this, fluids acted to make sensible life vivid, rich and animated. Light perspiration on the skin of nerve-sensitive fingers, for example, could be indispensable to the subtle transmission of the felt impressions of outside agents.¹⁷ Crucial to Matuszyński’s thinking here was the question of how access to the body was mediated. To be clear: impressionability depended on the film of moisture lining the membrane between inner and outer worlds. And it was the spinal nerve that controlled the degree to which the world passed through this film before dissolving into the sea of inner life. The sympathetic system, indeed, supplied an individual’s sensibility with its distinctive character, temperament, and somatic touch.

¹⁶ Matuszyński, *De L’influence du nerf sympathétique*, 30-31.

¹⁷ According to Sand, in a letter of 18 June 1846 to Marie de Rozières, Chopin was disturbed by the extent of his sweating: “He’s quite upset by it and claims that, however much he washes, he still stinks! ... We laugh to the point of tears to see such an *ethereal* creature refusing to sweat like everyone else, but don’t ever mention it.” Sand, *Correspondance*, VII: 379.

From a modern point of view, these ideas may seem curious. But they were prevalent enough to be shared by nearly all physiologists of the era. Even Magendie seems to have agreed that oily secretions in the hands sharpened the intensity of human experience, and this despite the fact that, in the 1820s, the neuro-anatomist worked so tirelessly against the outmoded Idéologue assumption that touch was the highest of the senses.

Physiology had to wait for the work of German experimentalists Ernst H. Weber and Johannes Peter Müller before sympathetic notions of permeable corporeality were challenged. Until Weber dipped each of his fingers into boiling water in 1834, bodies were still generally seen to act in sensitive sympathy with their environments.¹⁸ Immersing all parts of the hand in combination — phalanges, thumb, then forehead, ears, lips, eyelids, cheeks — proved the point still further: that each body part possessed specific nerve energies, each had its own distinct way of registering and dealing with sense. Indeed, only after such experiments did it become possible to think that sensations are perceived, not by transmission, but by interpretation.¹⁹ As Müller summarized:

The sensation of touch in our hands makes us acquainted, not absolutely with the state of surfaces of the body touched, but with changes produced in the parts of the body affected by the act of touch.... If we lay our hands upon a table, we become conscious, on a little reflection, that we do not feel the table, but merely that part of our skin which the table touches.²⁰

The modern truth that sense is subjective, that human beings never feel *things*, but merely their *sensoriums* engaging such things, was evidently a provocative claim to make in this milieu. (The distinctions between Figures 3 and 4 illustrate this shift in conceptions of touch as inflected in anatomical atlases of the period.)

¹⁸ *E.H. Weber on the Tactile Sense*, ed. and trans. Helen E. Ross and David J. Murray, 2nd edition (Hove: Taylor and Francis, 1996), 87.

¹⁹ Jim Secord’s *Victorian Sensation* (Chicago: University of Chicago Press, 2000) makes this point more broadly for British culture, suggesting that “sensation” took on a wider meaning in the nineteenth century, having more to do with “the occasion” of perception rather than its physical impress.

²⁰ J. Müller, *Elements of Physiognomy*, trans. William Baly, 2 vols. (London: Taylor and Walton, 1842), I: 1068, 1081.



Figure 3 Two atlas images beholden to Bichat's conception of the sensible hand, fully open to the external world via tactile-tissular gateways; on the left, Paolo Mascagni, *Tavole figurate di alcune parti organiche del corpo umano* (Florence, 1819), n.p.; on the right, Jules Cloquet, *Manuel d'anatomie descriptive du corps* (Paris, 1825), n.p. BIU Santé (Paris).

From "Touching" to "Touch"

Touch, as every musicologist knows, was the spine of Chopin's conception of method and musical style. "The goal is not to learn to play everything with an equal sound," Chopin wrote in the sketches of his unfinished keyboard method: "it seems to me, a well-formed technique [is one] that can control and vary [*bien nuancer*] a beautiful sound quality." His students, famously, learnt "sound" before all else; facility or velocity only came after the achievement of a uniquely sensitive or inimitable sonority at the instrument. Scholars have long argued that Chopin looked beyond questions of evenness or the equalization of fingers. Independence was never as important to him as the so-called "individuality of the fingers." "For a long time we have been acting against nature by training our fingers to be equally powerful," he continued in his method sketch: "As each finger is differently formed, it's better not to attempt to destroy the particular charm of each one's touch but on the contrary to develop it." Ultimately, Chopin concluded, "Everything is a matter of knowing good fingering;" of older pianists, "Hummel was the most knowledgeable on this subject."²¹

²¹ Quoted in Jean-Jacques Eigeldinger, *Chopin: Pianist and Teacher as Seen by his Pupils* (Cambridge:



Figure 4 A neuromuscular view of the insulated hand, beholden less to the world of tissular sense than to internal function and form; Jean Baptiste Marc Bourguery, *Traité complet d'anatomie de l'homme* (Paris, 1844), III, n.p. BIU Santé (Paris).

Johann Nepomuk Hummel was indeed a venerable forebear, though he is now more generally remembered for his gruff temperament and the diamond rings that adorned each of his "spidery fingers."²² The Viennese *artiste*, *pace* his quirky modern reputation, was nothing if not influential in his day — particularly for Chopin, who had met him in the Austrian capital in 1830. Like Chopin, Hummel taught economy of movement: a quiet hand, calm deportment, tranquil wrist and passive arm. Chopin had in fact followed his

Cambridge University Press, 1986), 195.

²² Harold C. Schonberg, *The Great Pianists* (London: Victor Gollancz, 1965), 106.

predecessor by recommending that the pianist's hand be turned outward, although, for Chopin, the hand's pivot finger was the index (dividing the hand) rather than Hummel's thumb. Furthermore, instead of counseling student-beginners to close the hand à la Hummel on C-D-E-F-G (thumb and forefinger pinching together), Chopin proposed a new "first position" — with the sensitive tips opened on E-F#-G#-A#-B.

This insistence on ease and economy, for Hummel as for Chopin, had one aim: to open the acquiescing body to the finesse of its sensory environment — to the instrument and to the room. Qualities of clarity and evenness were important. But at base, the urgent point of order was the nervous sensibility of the student and the vital perspicuity of each finger. Acuity, sensitivity, susceptibility: all these had to be inculcated into the pianist's automatic habits. The tissues and nerves of the fingers, in other words, were to be vivified — less as active shapers or molders of tone than as receptors, as fine receivers of the most delicate physical impressions. One can only achieve "every gradation of touch," Hummel pointed out, after acquiring "the finest internal sensibility in the fingers themselves, extending to their very tips."²³ When Chopin counseled that more than three hours' practice per day only induced *abrutissement* (stupefaction by overwork), he was in fact rehearsing Hummel's opinion. More than three hours, Hummel had warned in his *Complete Theoretical and Practical Course of Instructions* (1828), dampened the spirit, produced a mechanical effect, and was disadvantageous to the performer — particularly, one would suppose, to his or her sympathetic nervous system.²⁴

Such a conception of touch — its principle being to cultivate an immense catalogue or array of finger "touchings" rather than seeking out *the* one, modern, meta-poetic or intellectual "tone" — had an ancient pedigree. On the most superficial level, the titles of many pre-Hummel keyboard methods

display their queasy (for modern tastes) ideas about feeling or touching keys for all to see. Witness, for example, the English title of François Couperin's *Art of Touching the Clavecin* (1717) or castrato Niccolò Pasquali's *The Art of Fingering the Harpsichord* (1765) with its gamut of touchings: legato, staccatissimo, sdruciolato, tremolato, or even Muzio Clementi's *Introduction to the Art of Playing on the Piano Forte* (1801). For modern taste, the discomfort seems to have something to do with that awkward preposition "on."

Chopin's ideas about touch, in spite of the stories scholars tell themselves, were not so far removed. *Carezzando* (stroking the keys), *touché lourée* (*porté* or *portamento*), *touché vibratoire*, *piqué*, *détaché*, *porté* or *lié* were all known to him. Of *carezzando*, fellow Polish émigré and keyboardist, Antoine de Kotski wrote near mid-century:

By this manner of touch the *sound* of the piano acquires a vibration so sensitive and so agreeable that one can no longer say, as was said formerly, 'The Piano is an instrument on which it is impossible to sing or move [anyone]!' ... [The] instrument will obey immediately, thanks to the combination of pedal, of touch, and especially of the amount of sensitivity possessed by him who plays. For whoever wants to move those who listen to him must himself be moved, must himself vividly feel what he wants others to feel. Thus these two things in tandem, *touch* and *sentiment*, make the music irresistibly stirring.²⁵

Such pianistic ideals involved freeing vital matter to be itself — liberating the life of the fingers in a process of personalization or individuation. Thus Chopin's continual pleas with his students for *souplesse* and those insistent refrains: "You must sing if you wish to play"; "You must sing with your fingers" or "music ought to be song."²⁶ "As many different sounds as there are fingers," Chopin reiterated in his unfinished *Méthode*.²⁷ If such words were not so familiar, they might seem curiously anthropomorphic: this tendency to conceive each phalange, this human substance, as though alive, as if breathing from the wrist.

Scholars, in other words, do a disservice to Hummel when they assume his work to be engineered for rationalizing or equalizing the fingers only, as a kind of modern gymnastics. Muscular training — building pianistic physique, power or technique — had little to do with it. Rather, the *Course* addressed itself to its user's sensibility, or — to be precise — to his or her sympathetic system. The

²³ J.N. Hummel, *A Complete Theoretical and Practical Course of Instructions on the Art of Playing the Piano Forte Commencing with the Simplest Elementary Principles and including every information requisite to the most Finished Style of Performance* (London: T. Boosey & Co., 1828), Part III: 40-42.

²⁴ Eigeldinger, *Chopin*, 27. In Adagios, Hummel counseled, one should depend on "the most delicate withdrawing of the fingers from the key, and on the nice sensibility of the fingers themselves." Ornaments called for "tenderness and attraction." "When [the student] has obtained this delicate feeling so far as to be able to produce these various gradations," he explained, "this power will manifest itself not only by its advantageous effect upon his ear, but, by degrees, it will also shed its influence upon his sensibility, becoming by its means purer and more delicate, and thus implant in his soul the seeds of a true, beautiful and expressive style of performance"; Hummel, *A Complete Theoretical and Practical Course*, iii, and Part III: 40-42.

²⁵ Quoted from *L'indispensable du pianiste* (ca. 1851) in Jonathan Bellman, "Frédéric Chopin, Antoine de Kotski and the *carezzando* touch," *Early Music* XXIX/3 (2001), 403-4.

²⁶ Eigeldinger, *Chopin*, 44-5.

²⁷ *Ibid.*, 195.

plethora of exercises covering every conceivable combination of finger and hand movement, as Leslie Blasius has demonstrated, was less the result of Hummel's mild insanity, than his determination to further the acquisition of fine inner sensibilities.²⁸ The wilful concerns of modern pianism — those familiar invisibles, “weight,” transference, pressure, intensity of sound, even our modern sense of that word “touch” — were not qualities to be prized in this system. In fact, quite the opposite. It was only later that it became possible to think that the hand should imprint rather than feel, that it might mould, sculpt, form or “express” rather than “sense” its way over and across the keys. The verb “touch” — here the act of “sensing” or “touching” — was not yet exclusively qualified as a noun: the one, unique, subjective, poetic or self-expressive sonority. Rather for Hummel, as for his predecessors, the ideal was to “form the hand”; to purify the playing of wilful, cognitive properties; to do away with intentional impurities; to cleanse playing of “ideas” or volition. The pedagogue's object, in short, was to transform performance — as far as possible — into the spontaneous effusion of the student's pure sympathetic temperament.

This may be a grand claim, but a host of historical evidence backs it up. Since the 1740s at least, as I have signaled, the keyboardist at play had become a key trope in scientific explications of automatic action. Famous descriptions of the human body as a vibrating harpsichord, by Diderot, for instance, in his conversation with D'Alembert, 1769 — or indeed by Chopin with Fontana (a mutual friend of Matuszyński) late in life — are too familiar to rehearse here.²⁹ It will suffice to say that, for these thinkers, complex reflex or involuntary action did not come from within, as the product of some innate or rebellious somatic

²⁸ Leslie David Blasius, “The Mechanics of Sensation and the Construction of the Romantic Musical Experience,” in *Music Theory in the Age of Romanticism*, ed. Ian Bent (Cambridge: Cambridge University Press, 1996), 3–24.

²⁹ “We humans are instruments gifted with sensation and memory. Our senses are merely keys that are struck by the natural world around us, keys that often strike themselves — and this, according to my way of thinking, is all that would take place in a harpsichord”; Denis Diderot, *Rameau's Nephew and Other Works*, trans. Jacques Barzun and Ralph H. Bowen (Indianapolis: Hackett, 2001), 101. Chopin wrote, “You are my old cembalo on which time and circumstance have played their dismal tremolo. Yes; two *old cembali*, — though you will object to such companionship. That is without prejudice to wither beauty or virtue; *la table d'harmonie* is excellent, but the strings have snapped and some of the pegs are missing. The worst is that we are the work of a fine instrument-maker: some Stradivarius *sui generis*, who is no longer here to repair us. We can't give out new notes under clumsy hands, and we choke down in ourselves all that which, for the want of an expert, no one can get out of us. For me, I scarcely breathe; *je suis tout prêt à crever*,” letter to Julian Fontana during his British tour on 18 August 1848, Sydow ed., *Correspondence de Chopin*, III: 363–4.

power. Rather, sympathetic movements were learnt; sensibility was trained by both its host and its environment to act in its apparently willful ways. Thus, for keyboardists, to educate the sympathetic weave was to release the will from the necessity of overseeing every bodily action. This in fact was the idea: to do away with impurities (textural, cognitive or willful) altogether. What we would today call “touch” — they apparently agreed — only implied lack of cultivation.

Take these words, written in 1749 by the English philosopher and so-called “father of associationism” David Hartley:

Suppose a person who has perfectly voluntary command over his fingers, to begin to learn to play upon the harpsichord: the first step is to move his fingers from key to key, with a slow motion, looking at the notes, and exerting an express act of volition in every motion. By degrees the motions cling to one another, and to the impressions of the notes... the act of volition growing less and less express in the time, until at last they become evanescent and imperceptible... Whence we may conclude that the passage from the sensory ideal or motor vibrations which precede, to those motory ones which follow, is as ready and direct, as from the sensory vibrations to the original automatic motions corresponding to them, and consequently, that there is no intervention of the idea, or state of the mind, called will.³⁰

Two years later, in 1751, Robert Whytt — whose work on the sympathies was so important — wrote:

A great variety even of the voluntary motions are many times performed, when we are insensible of the power of the will exerted in their production.... Thus a young player upon the harpsichord or a dance is, at first very thoughtful and solicitous about every motion of her fingers, or every step he makes while the proficient or masters of these arts perform the very same motions, not only more dexterously, and with greater agility, but almost without any reflexion or attention to what they are about.³¹

In his chapter on ‘Sensibility and Memory’ in *La Logique* (1780), French philosopher Étienne Bonnot de Condillac — whose ideas became so dominant in the post-Revolutionary era — concurred:

Every day my fingers acquire more facility: and finally they follow, as if by themselves, a sequence of determined movements; and they follow it without effort, without the necessity of my paying attention to them. Thus it is that

³⁰ Quoted in Franklin Fearing, *Reflex Action: A Study in the History of Physiological Psychology* (London: Ballière, 1930), 85.

³¹ Quoted in *ibid.*, 79.

the organs of the senses, having acquired different habits, move by themselves without the soul having any longer to watch continually over them in order to regulate their movements.³²

No sense of horror; no fright at the absence of will; no unease about the idea of releasing ‘predetermined’ habits: such *insouciance* would be impossible only a few decades later.

The manual to fully realize such associationist principles in practice and set Parisian trends — according to Blasius — was Louis Adam’s 1798 textbook for the newly-formed Conservatoire, *Méthode du Principe Général du Doigté pour le Forte-Piano*, a true document of its post-Revolutionary context. As Jan Goldstein has argued, the French Revolution represented something of a triumph for materialist philosophies of the sort under examination here. Around the turn of the century, a comprehensive scheme of institutional establishments aimed at regulating the automatic activity of the citizen body. For the aims of the Revolution to succeed, environmental reforms needed implementation: from the founding of a system of national secondary schools (the *écoles centrales*) to the annual cycle of revolutionary festivals, to the renaming of street signs (intended to excite patriotic thoughts and sentiments), to the institution of such influential public establishments as the Conservatoire. Like Hummel’s *Course*, these measures aimed at the education of sensible function. By directing “the chain of ideas,” the Idéologues assumed, the populace would acquire the habits of good social or sympathetic interdependence. Sense organs, nerves, imagination and somatic memory were to be enthused to the task. The ideals of transparency, mutual “feeling,” translucence to the world and high civilization depended upon it.³³

The Aeolian Harp

The calm, delicate, highly strung but sensorially aware posture envisaged by such high-minded ideals inevitably recalls images of Chopin seated at his Pleyel. The pianist’s susceptibility to his environment was and is legendary. Take the obituary printed on his death by the *Revue et Gazette musicale de Paris*: “[He was] so superhumanly sensitive that everything in this world became a torment to [him]; the least contact was like a wound, the least noise like a clap

of thunder, and the slightest whiff of a rose like a fatal poison.”³⁴ Schumann’s famous description of Chopin’s performance of his A-flat étude from op. 25 only fortified the myth:

Imagine an Aeolian harp possessing all the scales, and an artist’s hand combining these with all kinds of fantastic embellishments, but always with an audible deep ground bass, and in the treble, a softly flowing cantilena — and you will have some idea of his playing.³⁵

Schumann’s appeal to the familiar period metaphor of an Aeolian Harp — imagining a being wholly enlivened with and by its world — was no doubt intended to publicize some impression of Chopin’s sensitivity. Not for nothing did the critic recall the “artist’s hand” — not his person — controlling the étude’s apparently automatic opening A-flat arpeggiations. Georges Mathias, a pupil of Chopin’s after 1838, imagined his master’s extraordinary sensibility similarly:

Chopin as a pianist? First of all, those who have heard Chopin may well say that nothing remotely resembling his playing has ever been heard since.... the exultation, the inspiration! The whole man vibrated! The piano became so intensely animated that it gave one shivers.³⁶

Descriptions of quivering nerves and sentient materiality seem common enough in the Chopin literature. Charles Rosen, for one, has argued that in Chopin études, for the first time, the emotion of the music and the body of the performer become coequal, such that when pain is expressed, “the hand literally feels the sentiment.”³⁷ The growing market for keyboard studies in 1830s Paris presumably reflects the burgeoning appeal of Rosen’s aesthetic of presentification, this need to provoke high sensibility in pained emotional flesh. Emigrant salon culture, at least, valorized such social practices as deliberately induced low-level suffering. Take the case of one of Chopin’s patrons, Princess Cristina di Belgiojoso-Trivulzio, famous for the green-blue tinge of her skin, revolutionary Italian connections, and her relish of the fashionable poison,

³² Étienne Bonnot de Condillac, *La Logique*, trans. W.R. Albury (New York: Abaris, 1980), 165.

³³ Jan Goldstein, *The Post-Revolutionary Self: Politics and Psyche in France, 1750-1850* (Cambridge, MA: Harvard University Press, 2005), 60-138.

³⁴ “Epilogue: Obituary and Funeral of Frederic Chopin,” *Revue et Gazette Musicale*, quoted in William G. Atwood, *The Parisian Worlds of Frédéric Chopin* (New Haven: Yale University Press, 1999), 409.

³⁵ Robert Schumann, *On Music and Musicians*, trans. Paul Rosenfeld (New York: Pantheon, 1946), 136.

³⁶ Quoted in Eigeldinger, *Chopin*, 277.

³⁷ Charles Rosen, *The Romantic Generation* (Cambridge, MA: Harvard University Press, 1995), 383.

datura stramonium, which she took (one assumes) to fire the nerves and stimulate “feeling.” In this milieu, persistent physical discomfort might be useful for the ways it promoted that enviable intensification of life, and the ways it engendered that inimitable inner sense of the fragility of being.

The physiological effect of Chopin’s études — with their orientation around single hand shapes, motivic cells, motoric or automatic patterns and finely balanced formal symmetries — was no different. They too, the op. 25 set published in Paris only two months after Matuszyński’s medical exam, were explicitly addressed to the body’s centers of feeling, to performative routine and automatic sensibility. Not that the études were alone in this. All practice and performance — polonaises, impromptus, scherzos — projected a particular bodily posture, though in perhaps less conspicuous ways. Even the most allegedly “heroic” of Chopin’s scores, after all, do not necessarily exclude the possibility of a basic comportment in tune with Matuszyński’s physiological assumptions.³⁸ This said, the medical student’s vision of a body fully open to its tactile environment, his claims about the sympathies, touch and nervous sensibility take on fresh importance in light of such music as the F-major étude op. 25, no. 3. What kind of body — what kind of *moi* — might this score commend?

The “No Fourth Finger” Étude

At once apart and bound to the other pieces in the set, the F major study begins and ends ambiguously. The music is introduced with an upbeat C, a note that continues the three post-cadential Cs intoned pianissimo to end its predecessor in F minor. At the close of the study, prefiguring the ensuing piece in op. 25, are three concluding reverberations, also reserved and hushed. This time they are repeated chords broken off from the body of the piece by their mid-piano homophony. The dissipating whirl of the music, before this soft conclusion, has already ascended via swift trills into a generic Chopinesque close (reminiscent of the Nocturne in C minor, op. 48, no. 1) which gently whips the right hand up and off the keyboard. The ascending fourth (C-F) in the alto of the final chords, the descending fifth (C-G) in the bass and the repeated upper As, though,

³⁸ Raoul von Koczalski’s two recordings of the most supposedly “heroic” work of them all, the Polonaise, op. 53, makes this clear. Tradition tells that these performances have supreme documentary value, Koczalski having been charged with carrying the legacy left to him by his teacher, the Chopin-pupil, Karol Mikuli. The 1923 recording was issued on Polydor 62441, the 1938 version appearing on HMV DA 4431.

Example 1 Chopin, op. 25 no. 3, coda, with fingerings in m. 69 probably in the composer's hand, from the Dubois-O'Meara score

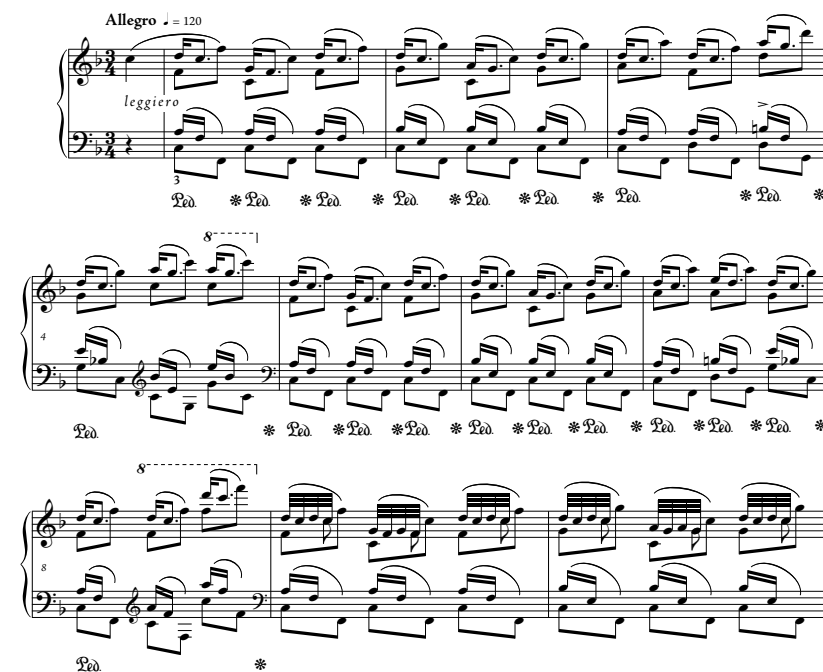
belong equally to this study as to the first intervals heard in each hand to begin the ensuing étude in A minor.

What is remarkable about these final moments, however, is not so much their open-endedness, or the study’s susceptibility to its external setting. More important is that these last measures are the only three wherein the use of the pianist’s fourth finger (in the right hand at least) might properly be recommended for use (in view of Chopin’s ideal). In this sense, it is significant that the first French edition score of one of Chopin’s pupils, Camille O’Meara (later Mme. Dubois), should indicate the fingerings as shown in Example

1³⁹ These final measures, significantly, are the only ones where the rhythmic figure that motivates the study is no longer active, and where the hands seem finally to reconcile with themselves. Ring fingers on either hand, in other words, are not necessarily required for any of the preceding measures — 69 of them! Chopin’s famous complaint — “all I have left is just a big nose and an undeveloped fourth finger” — might of course explain this quirk (these words appeared in a letter to his friend Fontana ten days before his famous Manchester appearance).⁴⁰ But the fourth fingers’ absence is probably more the result of this: that the F major study is merely an extraordinary example of Chopin’s intention to cultivate the tactile and sonorous personality of each inimitable finger. Each finger (besides the fourth), in fact, must find its own special sensibility within the fractured texture.

Most obviously, the étude is generated by a repeating “ricochet” figure for both hands, the rhythmic cadence of which suggests a reflex movement (Example 2). The eight fingers needed here divide into four pairs of two, each pair tracing intervals that recoil against each other. In the right hand, the outer digits (1 and 5) outline a lyrical rebounding melody in octaves, which opens up a tender fourth in the first measure, a fifth in the second and a sixth in the third before reaching out to an octave interval in the fourth. Fingers two and three, meanwhile, subtly blur the reverberating C of the left hand (the same C that suggested the piece into existence in the first instance). In fact, this reverberating C, always retiring and returning on first beats, is sustained in some form as late as measure 24, when — dissolving and subtly shifting gear — an F-sharp reverberation begins to supply its place. Always playing against the inside-outside pair in the right hand, meanwhile, is the laterally shifting left hand, the thumb and forefinger of which are sifted away from the lower fingers and their bass undulations.

The sense of vibrating stasis conjured in the opening of this study is largely



Example 2 Chopin, op. 25 no. 3, mm. 1-10

sustained by that C pedal offset by the gentle tonic off-beats of the left hand’s fifth finger. Crescendos at measures 4 and 8 prolong the hovering uncertainty, urging the fingers to play across the four-plus-four, answer-response phrases. Measures 9 to 16 simply repeat the opening eight measures. But these are now “lost measures.” The mirror effects of the competing digit-pairs are embellished with shiver-trills in the central finger-pair of the right hand. An auxiliary voice stressing C emerges from this shimmering texture — notated with down-stems — suggesting an inside-out version of the rebounding right-hand melody. This memory of the opening has the effect of distancing the player even further from his hands. The echo sounds suggest self-consciousness, as if the performer were listening to him or herself, or merely observing the automatic action of fingers performing a long, learnt, involuntary movement.

Taken as a whole, the study may be felt — this is important — as one glorious sympathetic reflection, or rebounding motion, in three parts. The piece’s most striking and obvious feature, as many musicologists have observed, is the B-major restatement of the theme at the core of the piece (measure 29: harmonically as remote

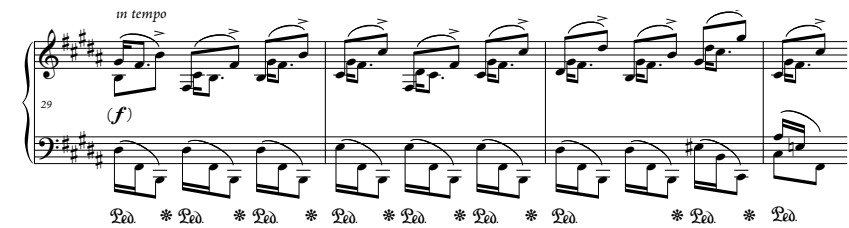
³⁹ Chopin’s O’Meara annotations are reprinted in Chopin, *Sämtliche Etüden*, ed. Paul Badura-Skoda (Vienna: Universal Edition, 2005) and Chopin, *Etüdy op. 10, 25; Trzy etüdy, Methode des methodes*, ed. Jan Ekier (Warsaw: Wydanie Narodowe, 2000).

⁴⁰ Sydow ed., *Correspondence de Chopin*, III: 365. Chopin apparently called his third finger the “grand chanteur.” Sophie Adelung remembered how Chopin, late in life, would teach while lying down in an adjoining room, coughing, administering opium drops or sugar and gum-water on himself, and rubbing his forehead with eau de Cologne. “But this did not prevent him from attentively following [my] playing,” Adelung recalled. “Even from a distance, and out of sight, not the slightest detail of her playing escaped him. ‘Fourth finger on F#,’ he would call out; his ear, sensitive to the slightest nuance, he knew immediately, from the sound, which fingers had played each note”; quoted in Eigeldinger, *Chopin*, 48, 167.

as possible from F major).⁴¹ One would perhaps expect that such an audacious in-and-out tritone movement (dividing the octave symmetrically) would generate a mood of “distance” in this middle section. In fact, the opposite is the case. When B major explodes into action at measure 29, the transposed “false recapitulation” that ensues is more grounded than both the opening tonic statement and its later reprise (measure 49). The left hand, now, has been rewritten as a simpler span, making the dynamic easier to achieve (Example 3). More than this, its pulsating D sharps lend this middle section an impression of greater weight. The displaced accents in the right hand, coinciding now with the base tonics, both nullify the effect of the barline and reinforce rootedness. What we hear in this study, harmonically speaking, is not so much an A-B-A form as a reverse B-A-B structure (all admitting that the B-major theme is exactly mirrored in both flanking sections).

This said, Chopin divided the study in a subtler way than I have so far suggested: a division less concerned with these great harmonic surges than with the reverberating Cs and F sharps mentioned earlier. In the score, changes of key signature (measures 29 and 45) segment the 72-measure study in an impeccably symmetrical way (28+16+28). The division to notice here is at measure 45. It is here, four measures before the F major reprise, that the C reverberation shifts back into focus as an inner voice in the right hand. Chopin’s palindromic conception, which softens the effect of the final F major recapitulation (its *sforzandi* and introductory diminuendo notwithstanding), once again highlights the vitality of this B-major nucleus. It is around this nerve centre that the outlying material reverberates, as if rebounding inwards and outwards from it.

The way in which this inward-outward reflex is managed only adds to the pianist’s sense of delicate poise. In broad terms, the transitions into and away from B major might be said to involve a whole-tone progression (as Salzer has argued) — C-B $\flat$ -A $\flat$ -F $\sharp$ -E-D-C — which at half-way stage (reaching F $\sharp$), diverts, and explodes into the 16-measure core just discussed. This harmonic surge towards B major, as the surge away, occurs in three 4-measure sections, each with a 2-measure statement and its 2-measure sympathetic echo. Measures 17 to 20 initiate the scheme, the middle voice of the right hand leading the fifth finger of the left through a parallel C-B $\flat$ -A $\flat$ harmonic shift. The final pair of these measures echoes the first a tone down. For the following four measures (21-24), the mode of reflection becomes registral and dynamic. This time the bass leads, briefly



Example 3 Chopin, op. 25 no. 3, the A section, from m.29

escaping the whole-tone pattern by slipping a half-step to G. (The parallel fifth and octave shifts are disguised with deft prolongations.) The final mirror effect (before the *ritenuto* and B major) — written over an F $\sharp$ bass now — is achieved by voice exchange. Here, the melodic outline traced by the thumb of the left hand (measures 25-6) is commandeered by the thumb of the right in measures 27 and 28. Meanwhile the bass in these slowing and expanding measures imitates (at the octave) what the right-hand thumb had played in the previous statement.

Exactly equivalent scenes of sympathy and antipathy perpetuate the whirl back to F from measures 37 to 49: the F $\sharp$ -E-D movement pauses to reflect on C $\sharp$ (measure 41), settles a clear dominant on C (measure 45) and re-enacts the uninhibited, “automatic” reprise. After this (our “lost measures” are now truly lost), an extraordinary coda ensues, which in itself might be read as a muted sympathetic echo of all that has passed before (measures 56-72). This section too has three parts (B-A-B) including a five-measure reverberation-codetta to end. Once again, the symmetry is ingenious. For twelve beats an undulating tonic-dominant pattern plays with registral and dynamic reflections. For the next twelve, somehow, B major and the memory of the piece’s nervous centre returns to the fingers, again in such a way as to keep the sense of double-focus (the last six beats echo the first six an octave below). The tiny, twelve-beat reprise that ensues recalls the shiver-effects of the “lost measures” for its final six beats. But inevitably, these last sounds, reverberating around C, spin into a trill, as if the sensible energies of the sympathetic nerve were finally losing shape and dissipating away.

A Musical Politics of the Body

What has happened here? Despite best efforts, the “new fact” has again led to uncomfortable conclusions. Readers may object that this article has only succeeded in reducing a Chopin étude to a form of complex autonomic activity, a kind of physiological “secretion,” making too little distinction between the

⁴¹ Felix Salzer performed an exhaustive analysis of this study in “Chopin’s Etude in F major, opus 25, no. 3: The scope of tonality,” *Music Forum* 3 (1973): 281-90.

music performed and the bodies living or playing it. (One might counter that there is no aspect of musical activity, produced or heard, that is not embodied.) Worse, it has repathologized Chopin. Where once the Romantic impulse had been to interpret his music as the expression of a supposedly breathless, deathly, invisible, semi-mortal being; now his music merely recalls a this-worldly body, perhaps less pained, but still afflicted. The same hyper-sensitive composer remains, although now (at least) the hyper-sensitivity involves a culturally or historically situated body.

This *étude*, I argue, provided elegant Parisians with a context for the induction of an elite vision of the performing body, the music being used for the pleasurable exploration of a specific socio-political comportment. The score, in other words, served in the formulation of a musical practice, a life-world, where sensible feelings, tactility and autonomic routines could be cultivated as physical “proofs” of high-class sentience or refinement. As a technology or script for the animation of sympathetic life, this notation acted in the social production of an intensely embodied sense of self. These musical scenes of bounding and rebounding movement, autonomic echoes and replies, of sympathy and antipathy, repetitions and reverberations opened an emotional space for the vivification of the student-pianist’s somatic temperament. Inspiring the life of the fingers, they projected the student’s body into an automatic whirl, at once improvisational, and yet somehow inevitable — in any event: highly symmetrical, disconcertingly so. This music, in short, was played and performed in relation to a richly vitalist experience of the body — as such doing important contextual work — since this culture of intense sensibility and refined deportment was coming under pressure in Chopin and Matuszyński’s milieu. What we have with the publications of these scores is an argument for the truth of intelligent matter — for the value of a finely-tuned, artful, sensitive ethic of social performance and social conduct. At once avant-garde and old-fashioned, as we have seen, this music related, in intimate ways, to one of the most radical takes on localized somatic agency, “individualized” or sentient fingers it has ever been possible to conceive.

Balance, pain, and fragility (perhaps not illness) are still properly at the core of Chopin’s reception and his world I think. But I wonder whether all the talk of breathless metaphysics has obscured something inescapable in the pianist-composer’s scores: that there is a material effect, something needlingly physical about them, perhaps related to the cool low-level pain that practice and performance brings. It is a music, finally, that we may find argues insistently for our own fragility, for our own materiality, and for our beholdenness to the automatic life of our bodies.