

Janáček's Chronoscope

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Wilhelm Wundt, principal founder of experimental psychology, wrote of consciousness as one would write of theater or of cinema *avant la lettre*, and in this regard he joined a venerable tradition of envisioning the mind as a stage. "The whole drama (*Schauspiel*) of the sequence and connection of images," he noted in 1874, "is . . . completely confined to that central site of consciousness, which stands under the influence of inner observation by shrinking markedly in its consequence."¹ Attentive examination of consciousness, in other words, already alters its contents by seeming to displace them from everyday life, viewing them within some self-contained scene as if from afar. Wundt's writings place "the comings and goings" of mental life—sensations, ideas, affects—under the spotlight of the well-disciplined and highly managed self-observation so characteristic of nineteenth-century psychology. The theatrical character of this sort of discourse would seem to lend itself almost immediately to aesthetic reflection and representation. For this reason, among others, it makes sense that scholars of early modernism have been keen to interpret the work of writers, artists, and composers of Wundt's and succeeding generations as engaged in a reflective or representational project with respect to contemporaneous forms of psychological knowledge and experience.²

To take an unusually direct case in point, it can hardly be surprising that such a vision of psychology would attract a composer as attuned to the drama

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1. "Das ganze Schauspiel des Verlaufs und der Verbindung der Vorstellungen ist . . . ganz und gar auf jene Centralstelle des Bewusstseins beschränkt, die unter dem Einfluss der innern Beobachtung steht, indem sie sich in Folge derselben deutlich verengert." Wundt, *Grundzüge der physiologischen Psychologie* (1874), 726. See Dennett on the "Cartesian Theater," in *Consciousness Explained*, 101–38. It is perhaps relevant that Wundt wrote theater reviews early in life. See Diamond, "Wundt before Leipzig," 8.

2. The classic analysis of the psychologization of modernist literature is Ryan, *The Vanishing Subject: Early Psychology and Literary Modernism*. More recently, Micale, ed., *The Mind of Modernism: Medicine, Psychology, and the Cultural Arts in Europe and America, 1880–1940*, presents a lively interdisciplinary collection of studies on the topic.

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of the passing moment as Leoš Janáček, who eagerly worked his way, in the mid-1910s, through Wundt's foundational *Grundzüge der physiologischen Psychologie* (*Principles of Physiological Psychology*).³ Michael Beckerman has shown that the composer's reading, documented by copious annotation across the textbook's three volumes and by references to Wundt in his own late theoretical writings, generally showed signs of substantive rather than touristic apprehension, again and again turning the treatise's arcane points of method and observation inventively to his own purposes.⁴ But Janáček's enthusiasm for the trappings of psychological knowledge exceeded the textual. In 1922, he came to possess a finely calibrated metrical instrument known as the chronoscope (Figure 1), which had been used for several decades to study reaction time, a seemingly trivial but in fact formative arena of research for the constitution of the new experimental field. The chronoscope was situated at the vanguard of a drive, exemplified by Wundt's seminal Leipzig institute after 1879, to pursue the analysis of mental processes into their minutest elements, generating a proliferation of data concerning the measurement of those processes: How long does it take me to feel that I have been pricked, or shocked with electricity? How long to will myself into responsive action? How long to determine which toe has been stimulated? How long to choose which muscle I will move in response? How long if I have been drinking coffee? Tea? Alcohol? If I am smelling musk? If I am fatigued? Distracted? As part of the gradual piecing together of a new landscape of mental life in the latter half of the nineteenth century, a heightened attentiveness to *very short spans of time* created not just new knowledge about the human but a new sense of the scale of available experience.

Janáček was enthralled by this rescaling of experience. "I have the Hipp chronoscope," he announced in a March 1922 feuilleton. "It measures time for me down to the thousandth of a second. I narrow my consciousness down to this miniscule time span."⁵ To be sure, he put the device to ends other than

3. Janáček read the most recent, expanded edition: Wundt, *Grundzüge der physiologischen Psychologie*, 6th ed. (1908–11), henceforth *Grundzüge*. This edition omits the passage containing the *Schauspiel* metaphor in the 1874 version but retains an implicit theatricality in the sense suggested. The composer was typically precise in reporting his intellectual encounter: "I read volume 1 from 12 December 1913, finish on 25 February 1914 (p. 679); volume 2 from 25 May 1914, finish on 15 October 1914 (p. 736); volume 3 from 17 October 1914 and finish in Lázně Bohdaneč on 25 August 1915 (p. 770)." ("Čtu díl I. od 12. prosince 1913, dočítám 25. února 1914 [str. 679]; díl II. od 25. května 1914, dočítám 15. října 1914 [str. 736]; díl III. od 17. října 1914 a dočítám 25. srpna 1915 v Bohdanči-Lázních [str. 770].") Janáček, *Literární dílo (1874–1928)*, 640.

4. Beckerman, *Janáček as Theorist*, esp. 53–57, provides a useful overview of Janáček's engagement with the *Grundzüge*. The key theoretical work in this connection is the 1920 2nd ed. of Janáček's *Úplná nauka o harmonii* ("Complete Theory of Harmony"), which was revised in response to his Wundt reading. This text is most readily available in Janáček, *Teoretické dílo (1877–1927)*, 459–661; and in German as *Vollständige Harmonielehre*.

5. "Ich habe das Hippsche Chronoskop; es mißt mir die Zeit bis auf ein Zehntausendstel Sekunde. Mein Bewußtsein grenze ich auf diese winzige Zeitspanne ein." ("Mám Hippův

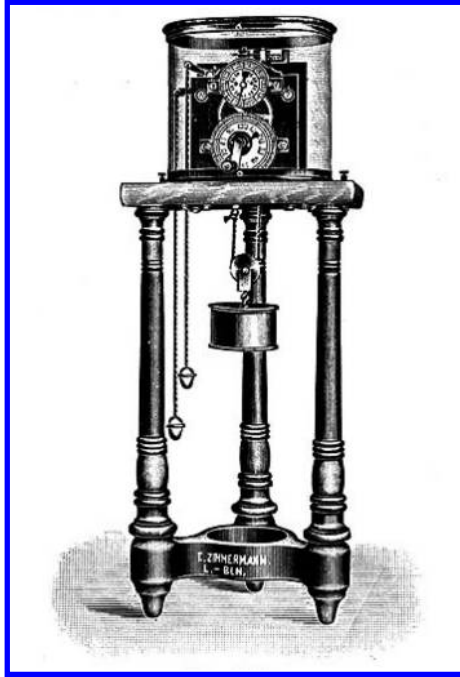


Figure 1 The Hipp chronoscope, in a 1923 scientific instrument catalogue. From *Liste 38 über Zeitmeßinstrumente, Kontrollapparate*, 7.

those prescribed by the *Grundzüge*, measuring not reaction times but durations articulated by the snippets of speech and environmental sound he frequently transcribed, sometimes reckoned down to the individual phoneme. Yet whether or not he followed experimental protocol, his immersion in some particular technique of perception, shaped and disciplined by the chronoscope, invites historical comment. The sheer concreteness of the apparatus, and its consequent availability to interpretation as a kind of staging ground for observation, invite an effort to imagine the qualities of that “scene.” They also invite an effort to hear such qualities in Janáček’s music. I simply mean here to develop a speculative interpretive attitude toward Janáček in which certain peculiarities of the chronoscope come to occupy a provisionally elevated position: its abrupt precision, its challenge to the habitual pace of thought, the way in which it coaches its users in a stylized sequence of gesture and observation—in short, a *theatricality* of perception that comes into intriguing tension with the promise of psychological knowledge to provide a naturalistic image of thought.

chronoskop; jím odměřím si čas na jednu desetitisícinu minuty. Svě vědomí omezím si touto kratičkou dobou.”) Janáček, *Literární dílo*, 490 and 493; originally published in German, having been translated by Max Brod.

The historian of science Kurt Danziger characterizes Wundt's story as akin to that of the "sorcerer's apprentice": his ambition to create a holistic and far-reaching study of human experience, taking in not only problems of sensation and perception but also of volition and other higher-level functions, was to some extent undermined by the very experimental means deployed to achieve it. What had begun as an effort to reform the traditional field of philosophy on an empirical psychological basis ended in a creeping "methodolatry," in which devices inherited from experimental physiology like the chronoscope (and there were many, though the chronoscope can be taken as a *locus classicus*) came to function almost as ends in themselves. For many observers, including not only more traditional philosophy faculties but also Wundt himself, the reams of often seemingly trivial measurements and other data spawned in Leipzig and elsewhere seemed to overwhelm the original philosophical or humanistic intent.⁶ This circumstance is significant in multiple ways for the present discussion: first, because it suggests that Janáček's recontextualization of the chronoscope for his own purposes was not so far out of line with the historical role such runaway instruments played in a context closer to their origin; second, because it perhaps grants us leave to consider the chronoscope with something less than fully rigorous attention to the specific theoretical function it performed within Wundt's overall intellectual program; and third, and more interestingly, because the image of some arcane object that enters the scene only to steal the show, to distract attention from the nominal main character (the psychological persona)—this is precisely the image I find myself perceiving in Janáček's work. In other words, my argument is that Janáček's pursuit of psychologism was a self-undermining one. If this is so, the situation would seem to call out for an alternative mode of interpretation, and I will venture to propose one in the second and fourth parts of the discussion, devoting an intervening third stage to further reflection on the historical and more local function of the chronoscope with regard to this composer.

Paradoxes of Psychologism

But it will not be so easy to dispense with the psychologizing aspect of Janáček's thought. If one's primary concern, after all, were to cultivate attunement to the sensory, cognitive, and emotional details of moment-to-moment experience, why *not* turn to the contemporary document—Wundt's *Grundzüge*—that most comprehensively articulated for its era the aims and methods of the new experimental discipline of the psychological self? In view

6. Danziger, *Constructing the Subject: Historical Origins of Psychological Research*, 17–67 (for "sorcerer's apprentice," 34). For contrasting overviews of Wundt's program, with more attention to methodological and philosophical aspects, and less to institutional or technological ones, see Woodward, "Wundt's Program for the New Psychology"; and Kusch, *Psychologism: A Case Study in the Sociology of Philosophical Knowledge*, 128–37.

of Janáček's voluminous transcriptions of Czech speech fragments and other items overheard in the everyday environment, his naturalistically declamatory vocal writing, his quasi-verist treatment of operatic character and situation, and his late draft of an essay envisioning a musical naturalism, it is not without reason that the composer has been cast as a kind of psychological realist, for which agenda the "new psychology" would seem an intuitive ally.⁷ The draft notes on naturalism, which Miloš Štědroň dates to 1924 or 1925, begin to give some sense of the composer's brand of psychologism by sketching the notion of an "inner environment" (*vnitřní prostředí*) in terms of "the functioning of inner organs" and "the sequence of all cognitive processes, in general: all consciousness." He goes on to hint at an expansive vision of "consciousness" bordering on the surrealist in its insistence on a jostling together of disparate elements sharing no relation other than their common locus in some individual psyche: "All that has fallen into it—even perhaps unnoticed—disintegrates, collects, crisscrosses, pushes through, *disappears—but never vanishes.*" Finally, and echoing Wundt's "drama of the flow and concatenation of images," Janáček concludes that "what is important for us are the rhythmical images engendered by all the senses," including the emotional values associated with them.⁸ It remains unclear, however, *why* these "rhythmical images" (*obrazy rytmů*) should be "important" at all. Is the psychological naturalism he imagines inherent to music? Or would it require some exceptional effort and intent? Is the proper relationship between music and such "images" one of representation? Or, again, would music tend to engage the "inner environment" in any case, without entailing the intentional situation of rendering an interior state exterior? Janáček does not address these questions, leaving the matter conceptually general, hence interpretively open, and not restricted to any particular genre. (And partly for that reason, despite the conventional if understandable emphasis of Janáček studies, I do not privilege opera here, with its special psychologistic and characterological problems.)

Complicating matters is that Janáček's encounter with Wundt sat astride the international drift *away* from psychological naturalism in music following World War I, whether impelled by the rationalist pretensions of *Neue Sachlichkeit*, or by Marxist distaste for what often seemed the subjective solipsisms of the first Expressionist wave, or by other critical prerogatives. One

7. For perceptive consideration of the problems inherent to such a characterization, see Dahlhaus, *Realism in Nineteenth-Century Music*, 95–105; Chew, "Reinterpreting Janáček and Kamila: Dangerous Liaisons in Czech Fin-de-Siècle Music and Literature," esp. 101–3; and Katz, *Janáček beyond the Borders*, esp. 6–10.

8. "Vnitřní prostředí / Prof. Dr. Nachtikal jím myslí práci vnitřních orgánů. Doplnuji to na sledy všech průběhů vnímání, povšechným slovem: všechno vědomí. / Co do něho vpadlo—i třeba nepovšimnuto—rozplývá se, shrnuje, křížuje, protlačuje, *tratí se—ale nikdy neztrácí.* . . . Pro nás jsou důležité obrazy rytmů přivedených všemi smysly a—doprovod citový." Janáček, "Janáček o naturalismu," 289, emphasis original; trans. as "Janáček on Naturalism," 298. Janáček attributes the phrase "inner environment," without further comment, to František Nachtikal, an engineering professor in Brno at the time.

result is Janáček's enigmatically double-edged critical identification. What are we to make, for example, of the duelling claims between the composer's own evident psychologism and a young Theodor W. Adorno's approval of *The Makropulos Affair* in 1929 for being "far from all psychology"? Or between Milan Kundera's insistence on the composer's "thoroughly unique psychological lucidity" and even "veritable *psychological furor*" and Max Brod's more restrained description of the 1916 *Jenůfa* as "stylization that is unforced, close to realism, and yet musically immanent," obeying "its own inner laws of unnaturally free-form creation"?⁹ Such apparent disparities challenge us to imagine an aesthetic conception that would allow for *both* the earnest embrace of psychologism *and* its equally earnest repudiation.¹⁰ The fact that the composer and his boosters have often professed an essentially positive evaluation of psychological knowledge is of less immediate concern for the present discussion than is the need to acknowledge a discursive space in which the two otherwise countervailing attitudes might have coexisted. I would suggest that this proposition, though paradoxical, becomes understandable in the context of a properly historicized exploration of the image of psychology around 1920.

Moreover (and especially if we wish to take Janáček as in any way typical of a particular moment in modernist aesthetics), we need to be wary of prolonging the cliché that modernism's various psychical readjustments, such as they were, simply entailed a retrenchment of the experience of interiority music had been thought to promise for generations. As Martin Jay has pointed out, modernism and psychologism must instead be seen to have related to one another at key moments less through a happy congruity than through "a process of negative exclusion, a process that overlapped and sometimes interfered with the more positive interaction" commonly ascribed to them.¹¹ Relatedly, for the philosopher Charles Taylor, modernism entailed at least initial rejection of the intertwined strands of psychologism, subjectivism, and expressivism in order to arrive at a decentering (though nothing like a poststructuralist abdi-

9. Adorno, Appendix B to Botstein, "The Cultural Politics of Language and Music," 47; Kundera: "À la recherche du présent perdu," 134–35, original emphasis; Brod, Appendix A to Botstein, "Cultural Politics," 42–43.

10. I am of course aware that psychologism, realism, and naturalism are not at all the same thing, a point made with political fervor in Lukács, *The Meaning of Contemporary Realism*, and less polemically in Dahlhaus, *Realism in Nineteenth-Century Music*. I do not believe the distinction bears substantially on my argument as I am merely relying on the overlapping psychological dimension these categories often share.

11. Jay, "Modernism and the Specter of Psychologism," 352. Cases in point for Jay's argument range from T. S. Eliot and T. E. Hulme to Adorno and Clement Greenberg. For other accounts of resistance to the psychological formation of the personal subject in modernist poetics, see, for example, Friedrich, *The Structure of Modern Poetry*; the critique of Friedrich in de Man, "Lyric and Modernity," esp. beg. 171; and more recent discussion of these texts in Jameson, *A Singular Modernity: Essay on the Ontology of the Present*, 106–18.

cation) of the self.¹² Although it would be a stretch to read Janáček directly in such terms, modernism's antipsychological moments are worth bearing in mind as limit cases even, or especially, when it comes to a figure as prone to blatant psychologism as he was.

Taking a somewhat different tack from Jay or Taylor, my argument, again, revolves around the observation that the disciplines and discourses of psychology *themselves* often resisted what we normally think of as a leap into psychic depth. This is effectively an extension of my earlier suggestion that psychological knowledge often appears to be theatricalized at its very source (and thus withdrawn straightaway from any grounding claims of either immediacy or depth).¹³ In the case of Wundt, aspects of his "physiological psychology," and the chronoscope is an especially neat example, can be said to have frustrated or forestalled the construction of an integral psychological self as much as they can be said to have facilitated it. I take the chronoscope here to emblemize the experiences of automaticity, reaction, speed, and fragmentation, which arguably contribute to a deferral of an image of the complete or continuous selfhood that would seem required for a situation of lyrical expressivism.¹⁴ What is of special interest here is that Janáček's enthusiasm for the instrument suggests a partial validation of these features, at least for aesthetic contexts. My reading of Janáček intends both simply to throw them into relief and also to reflect on a particular historical image of the psyche, with special attention to the relevant peculiarities of scientific microculture. The interpretive challenge is one of at once attuning ourselves to the dynamics of this deferral of expression while also reflecting on its historical conditions, seen here through the lens of one artifact.

12. Taylor, "Epiphanies of Modernism," in *Sources of the Self: The Making of the Modern Identity*, 456–93, in many ways responding to the Foucauldian critique of psychological "depth," ultimately argues that modernism's putative (and hardly universal) repudiation of Romantic psychologism and expressivism did not thereby exclude an "inward" or "reflexive turn" (480), which safeguards a robust space for the "personal."

13. It also responds to a perceived need to narrate the interwoven stories of the aesthetic and scientific modernisms of the early twentieth century with equal sensitivity to historical flux on both sides of the equation—in other words, as Mark Morrisson has urged, "to move away from a model that assigns science a privileged position of autonomy and purity." Morrisson, "Why Modernist Studies and Science Studies Need Each Other," 675–76. The critique of a separation between "science" and "culture" has, of course, occupied science studies for decades, but for a compelling recent statement, see Shapin, *Never Pure: Historical Studies of Science as if It Was Produced by People with Bodies, Situated in Time, Space, Culture, and Society, and Struggling for Credibility and Authority*.

14. In contrast, the picture painted in Meinhard Saremba's Janáček biography, for example, is somewhat misleading (though not wholly unjustified) in its emphasis on a psychology of emotion, which conjures associations with a Romantic conception of the sensitive soul, a far cry from the punctilious and unsentimental ethos of Wundt's Leipzig laboratory. Saremba singles out Wundt's theory of feelings as the key point of intersection with Janáček's work but does not specifically explain how this theory may in fact have been read by the composer, thus creating an overly general impression of the connection between the two figures. Saremba, *Leoš Janáček: Zeit—Leben—Werk—Wirkung*, 296–97.

Before returning to closer inspection of the chronoscope, it will be useful to make some preliminary observations about Janáček's music on the eve of his Wundt reading, not in order to dramatize some impending stylistic reorientation in response to that reading, but in order to propose how certain pre-existing concerns must have set him up to greet Wundt's cultural environment with a peculiar openness. Following those observations, a discussion of the composer's "chronoscopic" moment will emphasize how the play of speed and perceptual scale in the discourse surrounding this instrument came to threaten an image of the integral psychological subject. Finally, fixing on the motif of a theatrical gestuality I have already begun to identify, a final stage of argument essays some suggestions about an aesthetic conception of Janáček that remains speculatively engaged with Wundtian psychology without presuming the values of lyrical expressivity that seem at odds with it.

"Through little gaps one perceives precipices"

A look at *V Mlhách* or *In the Mists*, a four-movement cycle for piano composed by Spring 1912 (in print before Janáček had read a word of Wundt or seen a chronoscope), begins to bring the relevant idiosyncrasies to the table. At this point, I simply want to observe, in particular, that Janáček was preoccupied with asserting at least the possibility of operating in temporalities other than those associated with singability, or with ostensibly natural speech rhythms and movements of the body—pacings, in short, other than those of what might be taken as habitual figures of thought, or, at any rate, of lyric discourse.

The cycle's fourth (and final) movement dwells on the interplay of two elements: a songlike upper line consisting of freely paced eighth and sixteenth notes, often accelerating toward the middle of a phrase, and a left-hand accompaniment, which wanders through a succession of parallel broken tenths. In a manner perhaps reminiscent of verismo, the melodic delivery manages to split the difference between declamation and lyricism. It would be misleading to call it speech-like, yet it is rhetorical in a monologic vein. The music's rushing ahead and slowing down, the irregular metrical feeling, the formation of phrases at the pace of breathing during speech—all of this points toward an oral/verbal effort to insist on a point or to sustain attention. That, at least, is the impression the first two phrases give, through measure 7 (Ex. 1), and this much maintains an orientation around the singular line, an avatar of some imaginary subject who is presumed to occupy a centered enunciatory position bestowing unity and continuity on the chain of musical utterances—in short, a lyrical subject.

But at the *dolcissimo* passage, *Tempo di Meno mosso*, beginning in measure 9, the mode of presentation shifts subtly away from the lyrical-rhetorical, toward . . . what? The accompanimental motif—broken tenths, on the beat, in thirty-second notes—comes more to the fore through repetition and a

Example 1 Leoš Janáček, *In the Mists* (1912), mvt. 4, mm. 1–18. Copyright by Edition Peters. Used by permission of C. F. Peters Corporation. All rights reserved.

The musical score consists of five systems of piano music, each with a treble and bass clef staff. The key signature is three flats (B-flat, E-flat, A-flat). The time signature changes from 5/4 to 2/4 and back to 5/4.

- System 1 (mm. 1-3):** Tempo markings: *Presto* (160 ♩), *sost.*, *accel. molto*, *Meno mosso a tempo*. Dynamic markings: *mf*, *f*. Includes a fermata over the first measure and a triplet in the second measure.
- System 2 (mm. 4-6):** Tempo markings: *Presto*, *sost.*, *accel. molto*, *Meno mosso a tempo*. Dynamic markings: *mf*, *f*. Includes a fermata over the first measure.
- System 3 (mm. 7-10):** Tempo markings: *rit.*, *Tempo di Meno mosso*. Dynamic marking: *dolciss.*. Includes a fermata over the first measure.
- System 4 (mm. 11-14):** Dynamic marking: *f*. Includes a fermata over the first measure and a *più accel.* marking.
- System 5 (mm. 15-18):** Dynamic marking: *ff*. Includes a fermata over the first measure.

Redaction marks (Red.) and asterisks (*) are present throughout the score, indicating where the original image has been obscured.

charming downward sequential conceit, which proves tenacious in the piece from this point on. The rhetorical motivating force, the lyrical subject, of the opening passage seems to yield priority to the obstinate repetition of the accompaniment. As attention diverts toward the thirty-second-note figure, the plaintive character of the melody also gives way to a more jocular energy. We are treated to renewed examination of the accompanimental motif, which had remained a relatively fixed element in its first appearances. The examination occurs at first tentatively (mm. 9–12), then acquires greater directedness, until, in measure 17, for the first time, the broken tenth precedes rather than follows the melodic element, with the half-cadential A-flat major. In short, in an almost imperceptible shift of orientation, the lyrical centeredness of the opening appears to give way, at least partly through the sheer force of repetition, to a nonlyrical element. Certainly we do not experience anything so extreme as the dissolution of the nominal lyrical subject itself, but rather, I would suggest, simply an increased investment of interest elsewhere, as if the centeredness enabled through a continuous attention to the imaginary source of the lyrical voice were no longer of primary interest.

Over the course of the piece, the accompanimental motif tends to become only more prominent. In the second full “paragraph” (mm. 23–54), the motif asserts itself through an accumulation of metrically regular iterations. And following the thematic return at measure 91, the pre-climactic *Adagio* passage of measures 98–116 (Ex. 2) occasions an increasingly atonal intensification from broken tenths into more dissonant broken ninths in the same disjunct rhythmic setting, now shared with the right hand, and even superimposed upon themselves at the thirteenth. This superimposition generates the strident B–C♯/G–A gesture of measures 110–113, analyzable in principle as a momentary unresolved dominant thirteenth, but in the event giving way to the chromatic dissolution of measures 114–116, which in turn leads toward an emphatic (enharmonically misspelled) dominant ninth over D♯ at measure 117, finally stemming or focusing the flow of energy. In an important sense, the atonal trajectory of measures 110–116 emphatically recapitulates a principal narrative, or rather *antinarrative*, thread I have already highlighted: the overtaking of the lyrical by the gestural. Whatever else is going on in this music, much care is devoted to studying in different lights this otherwise marginal gesture, whose principal interest is that it is inexplicably rapid, subtly disruptive, in a way that never quite seems to square with the remainder of the texture.

The second movement of *In the Mists*, even more than the fourth, distills a transformation of the lucid into the mute, frank rhetoric into opaque gesture. Here (Ex. 3), a *gemütlich*, almost treacherously opening melody (mm. 1–4), introduced *Molto adagio*, yields in measure 17 to three grotesquely accelerated *Presto* iterations of the same melodic contour, now played *una corda* with dampers raised and staggered secondary gestures falling belatedly atop each outburst. These passages dramatize Janáček’s fascination with the play of scale,

Example 2 Janáček, *In the Mists*, mvt. 4, mm. 98–118. Copyright by Edition Peters. Used by permission of C. F. Peters Corporation. All rights reserved.

98 **Adagio**

f rubato energico

molto pesante, non troppo legato

* Red. * Red. * Red. * Red. * Red. * Red. * Red. * Red. * (sim.)

103

108

sempre pesante

Red. Red.

113

largamente

ff

Example 2 continued

The image displays two systems of musical notation for piano. The first system, starting at measure 117, shows a complex piano passage with a descending melodic line in the right hand and a supporting bass line in the left hand. Fingerings are indicated with numbers 1-5. Dynamics include *m.s.* (mezzo-soprano), *m.d.* (mezzo-dolce), and *ff espr.* (fortissimo, esprimo). Performance instructions include *Vivo* and *sfz* (sforzando). The second system, starting at measure 118, continues the piano part with a 9-measure phrase, marked with *Red.* and ***.

with the effects of otherwise unmotivated rapidity in relation to what might be established as a normative pacing for musical events.

As early as 1925, Max Brod—the composer’s friend, collaborator, booster, and early biographer—had already recognized something like the qualities I have been discussing, though his critical point of departure was quite different. *In the Mists* performs an exemplary function in Brod’s drive to position Janáček in a contiguous relationship to both lyrical and realist literary precursors of the previous century, but with a twist. While preserving a sense of the composer’s ostensible naturalism, Brod intimates noticeable discomfort with its consequences. Thus, the piano writing in this piece (standing in, to some extent, for Janáček’s mature oeuvre as a whole) is

alienating at first glance, since our mind, accustomed to coarse effects, must first accustom itself to Janáček’s delicate, true-to-nature nuances. . . . It is *sui generis*, traditionless (with all the advantages and disadvantages of this immediacy of the soul). It is as if Schumann-Brahms had not created the polyphonic, nor Chopin-Liszt the brilliant and graceful, piano style. The usual figures, the “fizzy” passages, along which the player could sputter forth from effect to effect, are completely missing. This is precisely why these pieces are very difficult to play. They require a wholly particular pianissimo-technique and a very unconventional feeling for rhythmic flow, change, nuance, a feeling—I would like to call it—for the apparently inapparent.¹⁵

15. “Befremdend im ersten Augenblick, da sich unser an grobe Effekte gewöhnter Geist an die zarter naturnahen Nuancen Janáčeks erst gewöhnen muß. . . . Sie ist eigenwüchsig, traditions-

Example 3 Janáček, *In the Mists*, mvt. 2, mm. 1–4, 17–19. Copyright by Edition Peters. Used by permission of C. F. Peters Corporation. All rights reserved.

Molto adagio (72 ♩)

(. . .)

Presto

ppp

una corda

* Red.

* Red.

* Red.

tre corde

Presumably, it is not only rubato passages like those of the fourth movement of *In the Mists* that inspire Brod's sense of "rhythmic flow, change, nuance," but even more so, moments like the startling and "traditionless" reiterated interjections of the second movement (mm. 17–19, etc.), with their demand for *eine ganz besondere Pianissimo-Technik*. Brod, to be sure, enlists the

los (mit allen Vorzügen und Nachteilen dieser seelischen Unmittelbarkeit). Es ist so, als ob Schumann-Brahms den polyphonen, Chopin-Liszt den brillanten und graziösen Klavierstil nicht geschaffen hätten. Die üblichen Figuren, die 'perlenden' Passagen, an denen der Spieler von Wirkung zu Wirkung sich forthaspeln könnte, fehlen ganz. Eben deshalb sind diese Stücke sehr schwer zu spielen. Sie verlangen eine ganz besondere Pianissimo-Technik und ein sehr unkonventionelles Gefühl für rhythmisches Fließen, Wechseln, Nuancieren, ein Gefühl—so möchte ich es nennen—für das scheinbar Unscheinbare." Brod, *Leoš Janáček: Leben und Werk*, 42–43.

otherwise “alienating” absence of stereotyped figures in service of a resistant mimesis: “Nature here is imitated where it is most difficult to imitate: in its modesty.”¹⁶ But the very elusiveness of this mimesis—signaled by the obfuscatory paradox of the “apparently inapparent” (*das scheinbar Unscheinbare*)—raises questions about the adequacy of imitation as a critical concept in this context. To what aspects of nature is Janáček “true”?

Earlier in his little book on Janáček, Brod indicates more precisely what he has in mind, under the thesis that Janáček was possessed of a finer attunement to “psychical impressions” (*Seeleneindrücke*) than most artists, a “supernormal sensitivity to minima” (*übernormale Empfindlichkeit für Minima*).

His art fulfills the maxim from one of Flaubert’s letters, which I have long reckoned the epitome of all knowledge of the true artwork’s essence: “Through little gaps one perceives precipices.” This phrase implies that, in the slightest aplomb, in the greatest levity, in the relation of the most delicate means to the most outrageous effect, in the abundance so powerful that the smallest gap suffices to let it burst forth, the manner of a great artwork manifests itself.¹⁷

So, again, the object of mimesis seems initially clear: it is impressions of the soul, a familiar Romantic preoccupation. For Brod, the sheer fact of Janáček’s heightened sensory refinement merits praise, as does its resulting musical manifestation in figures of moment-to-moment particularity and avoidance of gestural stereotype. But above all, he singles out as the composer’s distinguishing trait an attention to the small, the brief, the delicate, and the nugatory: the “little gaps,” indeed “the smallest gap.”

Front and center in Brod’s biography, the image of the “little gap” is exemplified by Janáček’s harmonic theory, which “registers an otherwise barely observed phenomenon in chord relations as ‘chaos’ (*spletna*), and places this in the center of attention.”¹⁸ The notion of *spletna* was perhaps the defining element of his harmonic thought by the 1910s.¹⁹ It referred to the brief moment

16. “So ist hier die Natur darin nachgeahmt, worin sie nachzuzahlen am schwersten ist: in ihrer Bescheidenheit.” Ibid., 42. With this maxim, Brod is quoting a recent essay by Hofmannsthal on the dramatist Franz Grillparzer. “Rede auf Grillparzer” [1922], in *Gesammelte Werke*, 9:94.

17. “In seiner Kunst [ist] jenes Briefwort Flauberts erfüllt, das mir seit langem als Inbegriff aller Erkenntnis vom Wesen des wahren Kunstwerks gilt: ‘Durch kleine Ritzen nimmt man Abgründe wahr.’ Dies Wort besagt, daß im geringsten Aplomb, in der größten Leichtigkeit, im Verhältnis der zartesten Mittel zur ungeheuerlichsten Wirkung, in der Fülle die so gewaltig ist, daß die kleinste Ritze genügt, um sie hervorbrechen zu lassen, die Art des großen Kunstwerks sich manifestiert.” Brod, *Leoš Janáček*, 6. For the Flaubert in its original context, see his *Correspondance*, 3:322–23.

18. “Dies zeigt sich etwa in seiner ganzen Harmonielehre, die ein sonst bei Akkordverbindungen gar nicht beachtetes Phänomen als ‘Chaos’ (*spletna*) registriert und in den Mittelpunkt der Aufmerksamkeit rückt.” Brod, *Leoš Janáček*, 4.

19. Similar ideas had already appeared in germinal form in the 1890s; and in late autobiographical notes, Janáček attributed the idea to his having read Helmholtz in the 1870s. *Literární*

of transition—a tenth of a second, Janáček supposed—from one chord to the next when the lingering psychophysiological resonance of the first was supposed to overlap with the physically sounding presence of the second, resulting in a kind of momentary virtual dissonance or “chaos” in between the two. As Beckerman observes, *spletna* can also be rendered as “tangle” or even “twine,” suggesting the ephemeral, but phenomenally significant, “intertwining” of two otherwise separate sonorities.²⁰ This concept was meant to extend the endeavor, in the wake of Hermann von Helmholtz, to understand harmonic relationships in psychophysiological terms.²¹ Yet the sensation of *spletna*, if it indeed attains to sensory presence at all, is not only fleeting but also intensely particular, almost to the point of frustrating any principled attempt to corral it under general categories.²²

For our purposes, perhaps the most significant aspect of the fascination for the “chaotic moment” or “entanglement” of harmonic relations is the way such interests bring about an unprecedented attention to moments in the interstices of what are otherwise taken to be the primary objects or sensations of musical experience. From the harmonic theory of the 1880s, through his increasing engagement with microsensations of the acoustic environment (including everyday speech), and right down to the kind of precipitous gesturality of the later instrumental writing explored above, it hardly seems

dilo, 632. In 1894, one encounters a related notion in the guise of the *chaotický okamžik* (“chaotic moment”). Beckerman, *Janáček as Theorist*, 38, 59–79. By 1897, one finds reference to the “*spletna*, *chaos*” in an otherwise general article on “Czech Musical Currents.” *Literární dílo*, 253.

20. Kerstin Lücker offers a somewhat contrasting view of this idea’s theoretical significance. Rendering *spletna* in German not as *Chaos* as in Brod, but as *Verflechtung* (“entanglement”), she describes it as “an important element but not the core of the theory, revealing little about it—it is rather the *precondition* for the aesthetic regularities upon which Janáček then bases his theory about the connection of simultaneities [i.e., chords].” Janáček, *Die frühen Schriften: 1884–1888. Grundlegung einer Musiktheorie*, 13n22. Whether we evaluate it as the “core” or the “precondition” of his theory, there is no doubting its originality or its significance for the broader view of a Janáčekian aesthetics developed here.

21. When Janáček began writing harmonic theory in the mid-1880s, he stood in a long line of Central European psychophysiological oriented theorists, including Helmholtz, *Die Lehre von den Tonempfindungen als physiologische Grundlage für die Theorie der Musik* (1863); Oettingen, *Harmoniesystem in dualer Entwicklung* (1866); Tiersch, *System und Methode der Harmonielehre, gegründet auf fremde und eigene Beobachtungen mit besonderer Berücksichtigung der neuesten physikalisch-physiologischen Untersuchungen über Tonempfindungen* (1868); Riemann, *Skizze einer neuen Methode der Harmonielehre* (1880); Skuherský, *Die Harmonielehre auf wissenschaftlicher Grundlage* (1885). This particular documentary trail is the one established in the last-cited text by Skuherský himself, one of Janáček’s teachers at the Prague Organ School in the 1870s. For discussion, see Lücker in Janáček, *Die frühen Schriften*, esp. 9–14.

22. In this regard, it arguably typified the structural self-undoing of the post-Helmholtz psychophysiological perspective in the large, which tended to cultivate a forthright sensibility for the particular sensory qualities of any given harmonic events, often above and beyond regard to their conventional “rightness,” thus undermining its own intention of rationalizing the common practice. On Helmholtz and his legacy, see Steege, *Helmholtz and the Modern Listener* (forthcoming).

overgeneralizing to propose that Janáček consistently developed what we might call a “poetics of the interstice.”²³ Brod’s invocation of a Flaubertian affection for perceptual detritus in the margins of thought or observation, normally ignored but here yanked into the focal point of attention—what Wundt would call the *Blickpunkt* of apperception—seems fully apt to express the significance of the “little gaps” in Janáček. It captures both a fascination with minutiae (partly in resistance, one imagines, to the value on experiences of the sublime and the monumental elsewhere in European musical culture) and also an investment in the unattended phenomena around the edges of everyday perception. With Janáček, Brod seems to suggest, one is well advised to listen not simply to chords, but to the chaotic moments between them. Similarly, one comes to attend not simply to the lyrical voice, but to the more mundane and inelegant, less self-naturalizing phenomena of accompaniment, of what happens just at the edges of voice or of the nominal subject. But this conceit does not convey a sense of the *value* of listening “in the gaps.” Why, after all, might it be *good* to cultivate sensitivity to the intervals between things? This is where the historical object of the chronoscope begins to help articulate the form of perception emerging through the composer’s psychological encounter.

Think Fast

As an instrument for measuring very short periods of time, the chronoscope would have promised Janáček a view into precisely the sort of “little gap” Brod perceived. But I would like to develop the more pointed claim that the chronoscope was involved in actually constituting or producing this kind of gap, rather than just aiding its observation. The basis for this claim is partly historical. The wider research program surrounding the chronoscope had developed in response to the sudden realization around 1850 that the speed of thought was not instantaneous, as widely believed, but rather that a finite—and, from the standpoint of early researchers, surprisingly long—period of time had to elapse in order for simple mental activities (like sensing and willing) to unfold. Even a duration as seemingly negligible as one tenth of a second was regarded as an unforeseen break with conventional wisdom about such processes. As it happens, Helmholtz (several years before he began work on sound and music) stood on the threshold of a new era in psychological research when he carried out early experiments in what came to be known as “reaction time,” and succinctly stated the nature of the new attitude by ob-

23. Beckerman has done the most to promote appreciation for this poetic universe, whose root concepts would include, in addition to *spletna*, Janáček’s neologism *ščasovska* (“a little unit of time” or “entimelet,” to revive Beckerman’s own coinage) and the *nápěvky mluvy* (“speech-tunelets”), or melodic units deriving from spoken inflection and rhythm. The glossary in his *Janáček as Theorist*, 133–36, might be read as a road map to this world.

serving, "The quickness of reflection is by no means so great as the expression 'quick as thought' seems to imply."²⁴ In short, where there had once been thought instantaneity, there was now an unnerving lacuna.

Jimena Canales has recently argued that a developing awareness of this lacuna—and of its unfamiliar miniature time frame—wrought pivotal changes upon nearly every major branch of knowledge, posing not only distinct scientific and technological challenges, but also philosophical ones.²⁵ It placed at the heart of every cognitive act what seemed an irrational, ungraspable, but enduring and yet hitherto unperceived moment; it appeared to defy efforts to measure even the simplest events with vanishingly fine accuracy; and in certain cases it even spurred anxiety about the very nature of free will. In the face of such challenges, the development of precision instruments that could assist in coming to some sense of the proportions of these elusive moments preoccupied a wide array of European researchers. The chronoscope, initially devised in the 1840s for ballistics research by Charles Wheatstone and refined by the German clockmaker Matthäus Hipp (whence "Hipp chronoscope"), was eventually adapted by 1862 for physiological measurement by a Swiss astronomer named Adolph Hirsch.²⁶ Over the subsequent decade, the instrument, along with a battery of similar apparatus, had become so important to the emergent discipline of experimental psychology that Wundt would devote twelve full pages to it in the first edition of his *Grundzüge* and more than forty by the sixth edition (which Janáček read).²⁷ Any reasonable observer would have concluded that the chronoscope was not just another instrument but a central means toward the defining agendum of early experimental psychology: the promise of measuring mental life with unprecedented precision.²⁸ Janáček could hardly have missed this, and it goes some way toward explaining the

24. "Die Schnelligkeit des Besinnens ist aber keineswegs eine so große, wie es das Sprichwort: 'Schnell wie der Gedanke' voraussetzen scheint." Helmholtz, "Ueber die Methoden, kleinste Zeittheile zu messen, und ihre Anwendung für physiologische Zwecke," 171; trans. as "On the Methods of Measuring Very Small Portions of Time, and Their Application to Physiological Purposes," 314.

25. Canales, *A Tenth of a Second: A History*.

26. The most thorough study on the topic is Schmidgen, "Physics, Ballistics, and Psychology: A History of the Chronoscope in/as Context, 1845–1980." For the firsthand account, see Hirsch, "Expériences chronoscopiques sur la vitesse des différentes sensations et de la transmission nerveuse"; publ. in English as "Chronoscopic Experiments on the Speed of Different Senses and Nerve Transmission."

27. Wundt, *Grundzüge*, 1st ed., 767–80; *Grundzüge*, 6th ed., 3:359–401.

28. Canales, *Tenth of a Second*, 21–29. For Canales, though, the "standard account" of the centrality of the chronoscope and the reaction-time experiment for the birth of the discipline was at least partly a narrative invention on the part of certain early practitioners. Further, Wundt himself came to view the continued emphasis on the importance of the chronoscope to his research, and even on the role of experimentalism in German psychology generally, as exaggerated; *ibid.*, 53–58. Still, that these developments *were* so viewed outside of Leipzig itself is the relevant historical context for my argument.

urgency with which he sought to acquire his own apparatus in the early 1920s.²⁹

As Figure 1 makes evident, the chronoscope itself was more complex (and more stationary) than the common pocket watch Janáček is sometimes imagined using. The central timing apparatus was an encased clockwork mechanism that rested upon a pedestal, which was often decorated with restrained classical motifs evoking an ethos of enlightened rationalism and bourgeois respectability. When the apparatus was set in motion, two dials on its face revolved at differing rates: the upper once every tenth of a second, the lower once every ten seconds (one hundred times more slowly than the upper). Engraved lines at the circumference of the upper dial indicated milliseconds; on the lower, tenths of a second. Working with the clockwork mechanism in isolation, one could manually start and stop the dials with the two levers visible at left through the protective glass case, which would be removed for the purpose. This, presumably, would have been Janáček's mode of interaction with the device.

Janáček tells us little about his use of the chronoscope. One unmistakably senses, though, that, like the physiologists and psychologists who first put it to use, he was viscerally excited by its sheer precision. Characteristic are reports such as the following, from 1924, on his recollected hearing of the emotive phrase, *Tys nebyl tam!* ("You weren't there!"):

I have borne in my mind these words wrapped up in pain. They wanted to be absorbed in tears.

I measure them. They are squeezed into 0.0077m H. Ch.

In the word 'Tys,' it was as if the consonant 's' broke loose.

A heavy, painful reproach has settled on it.

If the duration of the whole word was 0.0008m H. Ch., the hissed-out "s" must have taken up half of that time: perhaps it was sizzling on a red-hot heart.³⁰

29. It appears that Janáček may have used (or imagined using) a chronoscope as early as 1918. See the unexplained time measurements in Janáček, *Literární dílo*, 444 and 447–50; Zemanová, trans. in *Janáček's Uncollected Essays on Music*, 39. But the acquisition of his own device was evidently facilitated by Dr. Vladimír Novak, a physics professor at the Czech Technical College, sometime around February 1922. See Janáček, *Feuilletons aus den Lidové noviny*, 60. He subsequently submitted another request another chronoscope, "essential" for ethnographic research, to Dr. Jiří Polívka, chair of the executive committee of the Czechoslovakian State Institute for Folksong in a letter of 22 March 1922 (ten days after the *Prager Presse* article in which he already "has" the instrument), stating that it would cost 3,000 Czechoslovak koruna. See Janáček, "Hippův Chronoskop"; and related discussion in Tyrrell, *Janáček: Tears of a Life*, 428–29.

30. "Tys nebyl tam! Já. Nesl jsem v mysli v bolesti sbalená slova. Do slzí se chtěla vpít. Rozměřuji je. Vtěsnala se do 0,0077m H. Ch. Ve slově 'Tys' jak by se byla utrhl hláska s. Výčitka těžká, bolestná, na ní si usedla. Případlo-li na celé slůvko 0,0008m H. Ch., jistě dvěma čtvrtinami té doby syčelo to s; asi na žhavém srdci se připalovalo." Janáček, *Literární dílo*, 530; trans. modified from idem, *Janáček's Uncollected Essays on Music*, 49.

Here, "0.0077m H. Ch." abbreviates "seventy-seven ten-thousandths of a minute as measured on the Hipp chronoscope"—in other words, just under half a second.³¹

On the face of it, we are dealing with a kind of fetish. And indeed, Janáček scholars have readily and often waved away this aspect of his persona as a sign of a pseudoscientific naïveté that mortifies the proper orientation of any musical agenda.³² But whether or not Janáček's attention to such minute durations was fetishistic or pseudoscientific is less interesting than the fact that the ideal of precision guiding it was, however peculiar, nonetheless a historically significant cultural value with a rich background that has emerged as a central concern for historians of science over the past two decades.³³ In this light, we might instead characterize the *use* of precision toward specific ends, and further attempt to sketch the form of experience or mode of perception it entailed in Janáček's aesthetic practice. It is surely no accident that his precisionism projects a certain anxiety understandable in light of the chronoscope's revealing the temporal limits of perception. The instrument, having shown just how slowly we really perceive, think, and will, threw down a challenge to do all these *faster*.

Štědroň is undoubtedly correct to describe the role of the Hipp chronoscope (deemed "more than problematic") as one of "method," which implies an emphasis on practice and performance rather than the abstract theoretical concerns usually conjured by the scientific specter.³⁴ We can go further. In

31. Likewise, "0.0008m H. Ch." translates to about one twentieth of a second. Such figures raise a host of questions, largely unanswerable, and I am not inclined to make much fuss about them. Given that the chronoscope actually measured in terms of seconds, why did he occasionally (as here) report values in minutes? Did he not even grasp the fundamental unit of measurement his own device employed? Or did he go to the unnecessary trouble of converting thousandths of a second into ten-thousandths of a minute? Further, as is often asked, just how "accurate" could these measurements have been, given that he must have reckoned them from memory once he returned to his office at the Brno Conservatory where the chronoscope was stored? None of these questions, though, finally concern the substance of the argument pursued here, for reasons discussed presently.

32. In this vein, John Tyrrell supposes that "Janáček might well have imagined that he was being more 'scientific' than he was," while Jonathan Pearl warns us "that what is important, in both music and speech, is not always mathematical precision" and alludes to the "veil of science that [Janáček] sought, to cloak his efforts in objectivity"; similarly, Paul Christiansen all but apologizes for the composer's "appeals to nineteenth-century German 'objectivity,'" which "may have helped to lend a scientific cast—and thus respectability—to his work in the eyes of his contemporaries, and helped mask the nebulous quality of some of his remarks." Tyrrell, *Janáček: Years of a Life*, 1:478; Pearl, "Eavesdropping with a Master: Leoš Janáček and the Music of Speech," 1:157; Christiansen, "The Meaning of Speech Melody for Leoš Janáček," 245.

33. On Wundt and the chronoscope, see Benschop and Draaisma, "In Pursuit of Precision: The Calibration of Minds and Machines in Late Nineteenth-Century Psychology." More general studies include Wise, *The Values of Precision*; and Porter, *Trust in Numbers: The Pursuit of Objectivity in Science and Public Life*.

34. Štědroň, "Editor's Note" to Janáček, "Janáček o naturalismu," 292; "Janáček on Naturalism," 303.

particular, there is good reason to take seriously the chronoscope's demand for a kind of self-discipline—a “care of the self” or even a “technology of the self”³⁵—which has been overlooked in coming to terms with a composer like Janáček.³⁶ Wundt himself, describing the chronoscope's importance for the new experimental ethos, points beyond the significance of its associated numerical values, in favor of a different kind of precision, an ethically charged one of rigorous self-observation (*Selbstbeobachtung*), which was crucial for the development of the new discipline being forged in Leipzig. Unlike later experimental psychology, which tended to conceal the aims and mechanisms of the experimental process from its ordinary, semianonymous “test subjects,” Wundt's laboratory workers took themselves—co-workers, friends, colleagues—as subjects. The practices arising in this context have come to be known in English, confusingly, as “introspection,” which connoted not so much the quasi-poetic self-questioning of earlier psychology research as an exacting analytical attentiveness to the components of individual consciousness.³⁷ Early chronoscope users would have been mindful of Wundt's call for self-regulation: “However self-evidently important the exact execution of these timings is, it can never be forgotten in judging the reaction experiments that their primary value . . . lies not in the objective time values one attains with them, but rather in the precise regulation and variation of self-observation they allow.”³⁸ In other words, two different forms of precision—one numerical, one simultaneously mental and corporeal, or perhaps better, “personal”—were deemed codependent from the beginning.³⁹ Hence, even if, as is clear, Janáček's own methods would not have passed muster with the Leipzig master himself (who died in 1920), his recontextualization of the chronoscope for alternate purposes at least robustly maintained a core ethical component of the practice: its stimulation of an *übernormale Empfindlichkeit für Minima*, to recall Brod.

35. The key reference here is, of course, Foucault, *History of Sexuality*, vol. 3, *Care of the Self*; his concerns broadened beyond sexuality *per se* to engage ethical questions that would bear directly on the dynamics of the subject in an experimental psychological context. For a condensed statement, see idem, “Technologies of the Self.”

36. That is, any of the experimental figures for whom a fascination with the qualitative limits of some material object or medium generates an artisanal ethos somehow superseding “mere” expression: Luigi Russolo, Edgard Varèse, Carlos Chávez, Harry Partch, Conlon Nancarrow, Henri Pousseur, etc.

37. For clarification of the function of introspection in Wundt, see Danziger, *Constructing the Subject*, 18–24.

38. “So wichtig aber selbstverständlich die exakte Ausführung dieser Zeitbestimmungen ist, so ist doch bei der Beurteilung der Reaktionsversuche nie zu vergessen, daß ihr Hauptwert . . . nicht in den objektiven Zeitwerten besteht, die man durch sie gewinnt, sondern in der genauen Regulierung und Variierung der Selbstbeobachtung, die sie . . . gestatten.” Wundt, *Grundzüge*, 3:362.

39. The sense of “personal” is that of Michael Polanyi, in *Personal Knowledge: Towards a Post-Critical Philosophy*. The rigorous personal regimen cultivated by early users of the chronoscope in order to ensure consistent results is detailed in Benschop and Draaisma, “In Pursuit of Precision,” 15–20.

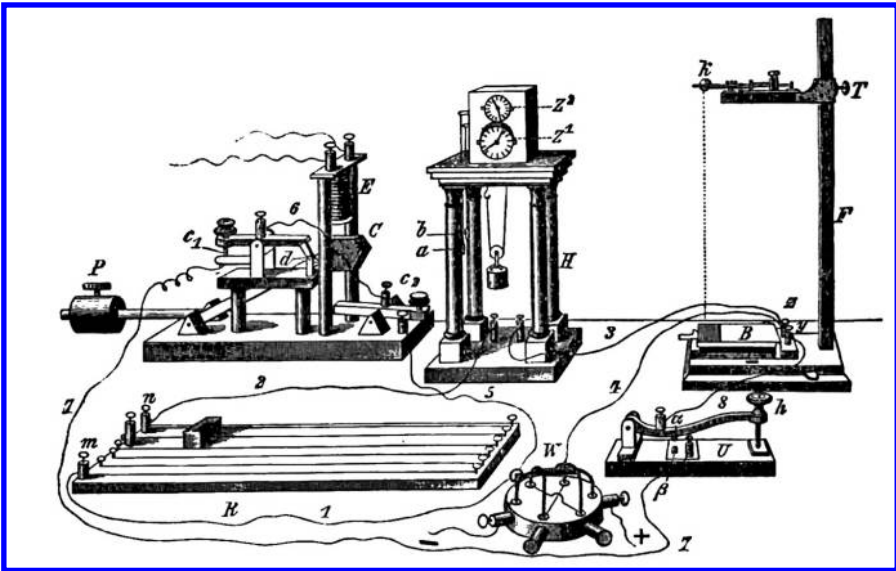


Figure 2 The Hipp chronoscope, in Wundt, *Grundzüge der physiologischen Psychologie* (6th ed.), 3:366

But there remains more to say about how the values of sensitivity and precision fit into a broader historical image. I would like to approach this by backtracking once again to the experimental context of the chronoscope itself. Though all indications are that Janáček in fact operated with nothing more than the basic form of the device shown in Figure 1, his initial and, one imagines, most immediately striking encounter with it would have been the fantastic image of a much expanded setup in Wundt's text itself (Fig. 2). Here, the reader immediately grasps that the isolated clockwork (*H*) was but one node in a larger network of energy-transfers, of which another node would be the "subject" himself. The latter enters the picture only obliquely, via the telegraph key (*b*) at right, attached to a block (*U*). In the experimental procedure illustrated here, a ball (*k*) was dropped from its stand (*F*) onto the hard surface below (*B*), whose movement on contact would close an electrical circuit setting the clockwork in motion. At the same time, in reaction to the sound of the ball hitting the surface, the subject was to depress the telegraph key as quickly as possible in order to break the circuit, thus stopping the clockwork and generating a measurement of reaction time.⁴⁰ Henning Schmidgen has emphasized that such networks of human and nonhuman objects constituted a kind of *signifying scene*, in which "the chain from matter to signs"—that is, from

40. Other components in the setup include devices (*W*) for directing the electrical current, devices (*R*) for regulating the intensity of the current, and devices (*P/E/C*) for checking the calibration of the clockwork mechanism itself. For further discussion, see Schmidgen, "Physics, Ballistics, and Psychology," esp. 63–64; and Benschop and Draaisma, "In Pursuit of Precision," esp. 12–13.

dropped ball to clock readings—“was organized through a *temporal chaining* of quite diverse partial objects.” In other words, the efficacy of the experimental setup was enabled through a series of interruptions in an otherwise continuous flow, resulting in a precisely calibrated sequence of conversions of energy. A weird by-product of this “temporal chaining” was an image of the subject as a node coequal with (or perhaps even marginal to) the other nodes, and a related image of each node as being in itself vacuous or as significant only for its punctual role in transmitting energy within a mercurial microeconomy of forces.⁴¹ Indeed, this vision of the experimental psychological subject led some observers to conclude by 1900 that, at the limit, “the brain was now only an interval, a void, nothing but a void, between a stimulation and a response.”⁴²

Becoming aware of oneself as a void, or as an interval between incoming and outgoing movements, could hardly go unaccompanied by anxiety. In response to the combined impact of the discovery of cognitive slowness and the unsettling sense of the psychological self as little more than a reactive node, an increasing number of scientific, social policy and other efforts between 1860 and 1920 aimed to shore up the integrity of thought, to accelerate it. Some of these revolved around racist and sexist discrimination on the basis of reaction time (thenceforth deemed a measure of civilization and intellectual superiority), while others helped to shape the Taylorist project of rendering industrial production more efficient by selecting workers with the fastest reaction times, as well as the inevitable extension of that project, after 1914, into the wartime push to find the quickest-witted soldiers for special tasks on the front.⁴³ But one did not need to look farther than the front line of modernist musical life itself to witness a fantasy of spurring the pace of human perception in step with evolving aesthetic desiderata. Arnold Schoenberg entered obliquely into a version of the “chronoscopic” worldview when he wrote in 1911, “This ‘thinking faster’ plays a leading role in fomenting evolution—in every sense: just as thinking too slowly, which easily becomes identical with ‘not thinking at all,’ effects the contrary! . . . Of course, this is not for fastidious ears, but only for good ones! For such as apprehend rapidly!”⁴⁴

Among musical figures, though, it was no doubt Janáček who most explicitly seized on the idea of exploding the potential of the tenth of a second into

41. Schmidgen, “The Donders Machine: Matter, Signs, and Time in a Physiological Experiment, ca. 1865,” 214–17.

42. This is how Gilles Deleuze, in *Cinema*, 2:211, characterizes an essential insight of Henri Bergson concerning contemporaneous physiological research (including, of course, Wundt’s). The relevant text is Bergson, *Matter and Memory*, originally published in 1896. In spite of its flip-pant tone, there is good reason to take Deleuze’s comment seriously in the context of the history of psychophysiology and its technologies. For pertinent comment, see Schmidgen, “Mind, the Gap: The Discovery of Physiological Time.”

43. Canales, *Tenth of a Second*, esp. 47–53.

44. Schoenberg, *Harmonielehre*, 3rd ed., 441; *Theory of Harmony*, trans. Carter, 366–67; translation modified.

an expanded and intensified aesthetic awareness. His writings, especially after 1915, are filled with often cryptic references to what he at one point called "the *stretto* of consciousness": "the human senses are such that within a *single second* as many as six kinds of impressions of equal clarity can crowd in"; "*rhythm in general* is wrought by life: we see and feel its germ in the flash of a single second" (1915–16);⁴⁵ speech melody expresses "the vigor of broad fields and the worthlessness of the dust, dark ages and the spark of a thousandth fraction of a second" (1918);⁴⁶ "there is no 1/1000 of a second in which an emphasized syllable would not flutter around, would not flicker" (1925);⁴⁷ and, in connection with Wundt, an oblique allusion to the Dutch aesthetician François Hemsterhuis's late rococo maxim, "The beautiful in all the arts should give us the greatest possible number of ideas in the smallest possible timespan."⁴⁸ Janáček's most full-throated ode to the chronoscope, a short German article entitled "H. Ch." in the *Prager Presse* (1922), characterizes this "smallest possible timespan" suggestively as a "little window" or "windowlet" into consciousness:

What flickers on this "windowlet," on this fine, feeling-beclouded surface, which a point would cover, which a needle-tip would poke through? What sort of white glow leaps upon it? Why does it narrow as if pinched? . . . O sweet "windowlet," strange view into consciousness that is measured by the Hipp apparatus! No truth, no lie of music escapes you in this thousandth part of a minute.⁴⁹

45. "Vědomí lidské je již takové, že v době *jedné vteřiny* vměstná se v něm v stejné jasnosti šestero dojmů. . . . Je nepochybné, že rytmus mluvy a zpěvu, *rytmus vůbec*, vytepáván je našim životem; vidíme a cítíme jeho zárodek v záblesku jedné vteřiny." Janáček, *Literární dílo*, 426–27; trans. in *Janáček's Uncollected Essays*, 87–88.

46. ". . . rozmach lánů širokých i mizivost prášku země, dob tmavých i jiskra tisícinného zlomku jediné vteřiny!" Janáček, *Literární dílo*, 445; trans. in *Janáček's Uncollected Essays*, 42.

47. "Není *chvilky*, aby v slabice nerostla v *dobu*: není 1/1000 vteřiny, aby přízvuk netékal (jeho oscilace), nemíhal se." Janáček, *Literární dílo*, 557; trans. in idem, *Feuilletons aus den Lidové noviny*, 160.

48. "Le beau dans tous les arts nous doit donner le plus grand nombre d'idées possible, dans le plus petit espace de temps possible." Hemsterhuis, "Lettre sur la sculpture" [1769], in *Œuvres philosophiques*, 1:24. Janáček, *Literární dílo*, 548; *Janáček's Uncollected Essays*, 100–101 (for both "the *stretto* of consciousness" and the paired reference to Hemsterhuis and Wundt).

49. "Was flimmert auf diesem 'Fensterchen,' auf dieser feinen gefühlsumwölkten Fläche, die ein Punkt bedecken, eine Nadelspitze herausstechen würde? Was für ein weißer Schein springt auf ihr? Warum verengt er sich wie zusammengepreßt? . . . O liebtes 'Fensterchen,' seltsamer Bild ins Bewußtsein, das vom Hippschen Apparat gemessen wird! Dir entgeht schon in diesem Tausendstel-Teil einer Minute keine Wahrheit, keine Lüge eines Musikwerkes." ("Co mihá se na tomto 'okénku,' na této drobné, citem obestřené ploše, která by mohla pokrýt jeden bod anebo vypíchnout špičku jehly? Jaký bílý mdlý svit se na ni vrhá? Proč se úží jako slisovaný? . . . Ó zamilované 'okénko,' divný pohled do vědomí, změřeného Hippovým přístrojem! Neujde ti žádná pravda ani lež díla hudebního již v té době tisícinné minuty.") Janáček, *Literární dílo*, 490–92 and 493–94; trans. into German for the original publication by Brod. "Windowlet" renders Janáček's *okénko*, for which Brod offered *Fensterchen*, a metaphor that may well have inspired his critical image of the Flaubertian "little gap," discussed above.

Janáček interpretation has often been stymied by an aspect of his thought, which the foregoing discussion has intentionally sidelined, but which his virtual declaration of love for the chronoscope here renders unavoidable: that is, the insistence that an ultimate aim was to achieve precisely such a “view into consciousness”—in other words, a quest for psychological truth *tout court*, with all the unresolved ethical and epistemological problems such an endeavor would bring with it.⁵⁰ What is the relation between “truth” and “time” in such claims: “no truth . . . escapes you in this thousandth part of a minute”? The underlying logic is a *non sequitur*. Its brute juxtaposition of terms merely insinuates, but does not substantiate, a hunch that the chronoscope communicates anything at all about “consciousness,” in the sense of otherwise unperceived states of being in the souls of others. Nowhere does Janáček explain just how the cold empiricism of the chronoscope is to inform his broader humanism. Indeed, the haphazard concatenation of ideas amounts to an unintended parody of the claims of contemporaneous positivisms in general: always promising betterment in human affairs, never able to secure a bridge from fact to meaning.⁵¹ What is more, Janáček’s statement distills the tension already exposed in the first section of this essay: namely between an expressivist passage through “the gate of feeling” on the one hand, and, on the other hand, a state of distanced or antipsychological observation (here, ironically, through the instrument of experimental psychology itself).

Given the logical disconnect that emerges in Janáček’s attempt to rationalize the value of the chronoscope, it seems safe to conclude that the instrument served some other function than what he was able to articulate for himself. I have already hinted at one possible such function: namely, that it may have facilitated a kind of autoregulative “care of the self,” in which the apparatus had a transformative effect less in relation to knowledge of the psychic life of *others*, as the composer forthrightly professed, and more in relation to the “body and soul, thought, conduct, and way of being” of practitioners *themselves*.⁵² To pursue this essentially emancipatory vision a bit further (and to follow a recent suggestion of Giorgio Agamben), one might suppose that Janáček’s idiosyncratic use of the chronoscope amounted to a kind of “profanation,” or restoration of the apparatus “to a possible common use” following its instrumentalization in certain practices of technocratic governance and domination in the pre-War and wartime periods, as noted above. In other words, following a long time in which the knowledge and apparatus of experimental psychology and physiology had been increasingly brought to bear on

50. See, for example, Beckerman, *Janáček and His World*, 227; and Janáček, *Uncollected Essays*, 37, 43, and esp. 121–22, which contains the often cited description of speech melodies as “windows into people’s souls.”

51. For a classic critique in this vein, see Habermas, *Knowledge and Human Interests*, esp. 71–90.

52. Foucault, “Technologies of the Self,” 225.

the disciplinary control of large populations (factory workers, soldiers, etc.), Janáček's naive conversion of the chronoscope for aesthetic purposes might be understood as a small, unintended act of resistance. Wresting the chronoscope from its accustomed usage, Janáček would have performed a redemptive act that unforeseeably generated a sort of "counter-apparatus."⁵³ In this light, the chronoscope would participate in the wider modernist tendency toward a renewal or liberation of perception generally. To recall a famous formulation of Walter Benjamin, it would have "exploded the prison-world" of everyday, habitual perception "with the dynamite of the tenth of a second." And thus, finally, through a time-honored procedure of defamiliarization, it would have raised mere perception to the level of *apperception*, that epitome of potentially critical self-consciousness.⁵⁴ Apperception, a term situated directly at the center of Wundt's theory and method, is precisely that state of observing the world in which one begins to become aware of the conditions of one's own perceptual habits and, to recall our earlier image, gains some limited measure of propriety over them in a thenceforth quasi-theatrical *performance* of perceiving.⁵⁵ The chronoscope, with its pedestaled "stage" and its facilitation of minutely calibrated gestures, would be central to such a theatricalization.

There is something to be said for this line of thought, however skeptically one views the emancipatory hopes it pins on Janáček's incipient modernism. (Despite my tentative rhetoric, I marshal it here precisely because I find myself sympathetic to those hopes.) It is difficult, though, to shake the sense that it paints an overly rosy view, since the composer's unilateral desire to "know" the thoughts and feelings of others, even if motivated by feelings of genuine empathy for humankind, would still seem to maintain a vestige of the chronoscope's dominative tendency and thus to compromise its potential resistance to the techniques of governance the chronoscope had come to facilitate.

53. Agamben, "What Is an Apparatus?," 14–19.

54. Benjamin, "The Work of Art in the Age of Its Technological Reproducibility," 117; translation modified. The immediate context of Benjamin's phrase is, of course, cinematography, with its split-second frames that, when viewed in slow or stopped motion, revealed previously unseen gestures and attitudes in moving objects and environments. The essay goes on to suggest that the experience of early movie-going cultivated a complex form of "reception in distraction" in which "casual noticing rather than attentive observation" could attest to "new tasks of apperception" and indeed "*profound changes in apperception*" (120; original emphasis). Given that recent scholarship has increasingly called attention to the historical roots of early cinematographic practice in the culture of experimental psychophysiology post-1850, it is hardly surprising to find this essay suggestive in the present context. See Canales, *Tenth of a Second*, 117–53; and Schmidgen, "Mind, the Gap."

55. In fact, the opening quote is drawn from the discussion directly preliminary to Wundt's introduction of the chronoscope, which initially serves to measure the so-called *Apperceptionsdauer* or *Apperceptionszeit*—the time required to place something at the *Blickpunkt* or "focal point" of consciousness, or in other words to switch one's attention from one thing to another. Wundt, *Grundzüge der physiologischen Psychologie* (1874), 726–800. The chronoscope is introduced starting on 769.

Instead, I would like to redirect the argument down a less familiar path, which may appear trivial at first since it involves Janáček's relations not with people but with animals. It is precisely by veering away from earnest professions of the composer's humanism that we are most likely to reach a provisional sense of the stakes surrounding psychological thought in his work. Janáček's investment in the animal world brings us face to face both with certain limiting conditions of human communication, and also with what I take to be an obliquely clarifying context for the significance of the chronoscope. In particular, an animal "turn" will help to test the proposition that, his own pronouncements to the contrary, Janáček's music is *not* best understood as only or primarily exemplifying an expressionist aesthetics—an aesthetic project, in other words, that mediates the expression of psychological content—though the music does not wholly give up on some other (perhaps more limited) form of psychological reasoning or experience.

Janáček's Animals and the "Game of Gestures"

A peculiarity of the late works and writings is precisely their sudden attention to the universe of smaller creatures, with an emphasis on the foreign languages of miniature gestural and acoustic behavior—an unexpectedly direct instance of "thinking faster," since the scale and pace of activity is so reduced in relation to that of the human body and its characteristic rhythms. The earliest, and probably best known, of Janáček's animal pieces is the opera *Příhody Lišky Bystroušky* (*The Adventures of Sharp-Ears the Fox*, better known as *The Cunning Little Vixen*), whose composition began at exactly the same time, the winter of 1922, that he was starting to work with the chronoscope.⁵⁶ Indeed, there is good reason to suppose that the same impulses that spurred his absorption in chronoscopic detail also motivated his interest in nonhuman creatures. Though most mentions of Janáček's scientific bizarrerie highlight its relevance to the overfamiliar notion of (human) speech-melody, his own references to the chronoscope tend to engage features of animal life at least as often as they do human life. Little surprise, then, that the composer's purpose as he lingered in parks and wooded areas in the early 1920s could shift so impercep-

56. Needless to say, animals do surface occasionally in the earlier works, just as does a preoccupation with short time values, so the historical claim is a general not an absolute one. (See, for example, certain movements from *On an Overgrown Path*, composed in the decade before 1911.) In any case, other pieces in this category include the *Concertino* (1925, pub. 1926), *March of the Bluebirds*, for piccolo and piano (1924, pub. 1928), which was reworked as the third movement of the wind suite *Mládí* (1924, pub. 1925); and various settings of the folksong "Komáři se ženili" ("The Mosquitoes Got Married") in choral arrangements (1891 and 1900–1906); as well as a sketch for a short work called "Komár" ("The Mosquito") from the mid- to late 1920s, presumed lost. The opera was based on *Liška Bystrouška* (1921), a serialized novel by Rudolf Těsnohlídek; published in English as *The Cunning Little Vixen*.

tibly from “seeking suitable company for my *Cunning Little Vixen*” to gathering measurements of birdsong down to the thousandth of a second.⁵⁷ The vixen's world, for Janáček, was also the world of the chronoscope, at least insofar as both involved a kind of defamiliarizing preoccupation with the gritty materiality of communication, at a level somewhere below that of conventional grammar, syntax, rhetoric, or semantics.⁵⁸ I am less interested in professing wonder at chronological coincidences (let alone idly speculating about causal mechanisms) than in trying to make sense of how an animal poetics may overlap with a “chronoscopic” one, and in attempting to come to terms with the challenge both of these seem to present to an image of (humanistic) psychological depth.

In what may seem an implausibly literal transposition of the chronoscope's *start . . . stop* motion, but in fact precisely captures its peculiar abruptness and its initiation of precipitous but aborted movement, the chronoscope gesture even works its way into the animal idioms of a piece like the *Concertino*, written in the Spring of 1925. The second movement (Ex. 4), according to the composer, finds a squirrel chattering away “as it jump[s] from the top of one tree to another,” where the squirrel's rapid leaping movements are suggested by sporadically lurching, on-the-beat eighth notes in the piano.⁵⁹ And in one of the woodland pantomimes from *The Cunning Little Vixen* (Ex. 5), a similar two-step motion marks the dance of a blue dragonfly searching the stage for the abducted vixen.

57. For a sense of his orientation in this context, see Janáček, *Feuilletons aus den Lidové noviny*, 89 (June 1921, prior to work on the opera), and the related essays, 89–113 (1922–25).

58. In this regard, Janáček looks both forward and back. On the one hand, he reactivates a trope manifest in the nineteenth-century aesthetics of the “fantastic.” See Brittan, “On Microscopic Hearing: Fairy Magic, Natural Science, and the *Scherzo fantastique*.” At the same time, he joins a long tradition of what might be termed “animal modernism,” possibly beginning with Igor Stravinsky (*Le rossignol*, *Renard*) and Béla Bartók (the insect music), continuing through Stefan Wolpe (his “organic modes” with their associated fish and bird behaviors) and Olivier Messiaen (the innumerable bird pieces), to the later Karlheinz Stockhausen, who in the 1980s arguably articulated the ethical-aesthetic aim of the tradition as a whole when he proclaimed a radical transformation of the limits of the human according to the different modes of perception and movement of variously sized creatures: “If one considers it at all worthwhile to empathize with the temporal and spatial experiences of other life forms, which live more quickly or more slowly, more narrowly or more broadly than humans (insects, fish, birds, plants, trees, clouds, etc.), one will in fact achieve this only through some few works of recent music, which no longer confirm the human as he is today, but rather bring him along on an infinite journey into his future.” Stockhausen, “Kommt Rat, kommt Zeit . . . —Zu den KLAVIERSTÜCKEN,” 37.

59. The first and third movements, meanwhile, explore the respective behavioral peculiarities of a hedgehog and an owl, according to a 1927 essay in Janáček, *Uncollected Essays on Music*, 108–9. A note at the end of the manuscript, however, reads instead, “beetle, stag, cricket, mountain stream,” evidently in reference to the characters of the four movements. For relevant analysis of the first movement, see Maus, “Structure and Meaning in the First Movement of Janáček's *Concertino*,” esp. 112–14.

Example 4 Janáček, *Concertino* (1925), mvt. 2, mm. 1–12. Copyright © 1980 by Edition Peters. Used by permission of C. F. Peters Corporation. All rights reserved.

Più mosso (♩. = 132)

The musical score consists of three systems. The first system shows measures 1-4. The Clarinet in E flat part is mostly silent, with a few notes in measure 4. The Piano part is marked *f* and features a complex rhythmic pattern of chords and rests. The second system shows measures 5-8. The Clarinet part has a melodic line with a trill (tr) and a dynamic marking of *p*. The Piano part continues with its rhythmic pattern. The third system shows measures 9-12. The Clarinet part has a melodic line with a trill (tr) and a dynamic marking of *p*. The Piano part continues with its rhythmic pattern.

This is, of course, the same tic that had preoccupied us throughout the last movement of *In the Mists*. It is perhaps even more pervasive in the vocal writing (which, again, I have advisedly downplayed in order to push the discussion into territory less familiar to Janáček studies). Indeed, there is a tradition of “deriving” this and related gestures from characteristic Czech speech rhythms, a recapitulation of the composer’s own linguocentric impulses.⁶⁰ But we need not feel compelled simply to reinscribe the conceits of Janáček’s Slavist nationalism when less restrictive interpretive pathways lie unexplored. (I know it is not one “thing” or the other. It may even “be” a representation of a cim-

60. See, e.g., Paul Wingfield, “Janáček’s Speech-Melody Theory in Concept and Practice,” 281–82; and Taruskin, *The Oxford History of Western Music*, 4:425–30.

Example 5 Janáček, *The Cunning Little Vixen* (1924), act I, rehearsal 15; © Copyright 1924 by Universal Edition.

♩ = 88
 The blue dragonfly (flies onstage, searches in vain for the little vixen)

15

Vn. solo

Fl. *ad lib.*

p

accel.

Cel.

Fl.

balom figure. Values associated with regional language, folk instrument, chronoscope, and animal vie for attention here in a textbook case of polysemy. The point is that to suggest such a stylistic tic is merely a national-linguistic marker points us in the direction of an interpretive cul-de-sac, whereas the more confounding problem of following through on a challenge to recognize and decipher the traces of Janáček's psychologistic bricolage points us in a direction that, to my mind, is somewhat more open.) In any case, the repetitive two-step action common to the dragonfly, the squirrel, and the chronoscope itself can be understood as gestural in a particular sense, which I would like to develop through more pointed consideration of this secondary conceptual motif—that is, “gesture” itself—that has cropped up repeatedly in the discussion without yet receiving adequate analysis.

In 1918 notes for an unfinished essay on “Stage Direction,” Janáček gropingly explores the dramatic possibilities of what, following Wundt, he calls the “play of gestures” or “game of gestures” (*posunková hra*). This notion has little to do with the *Grundzüge* but quite a bit to do with the first volume of Wundt's *Völkerpsychologie*, a later multivolume work focused on language, myth, and custom, and intended to expand the philosophical and humanistic significance of psychology where the *Grundzüge* had seemed to do the opposite.⁶¹ In Wundt's later study, the term *Gebärdenspiel*, or “gestural play,” surfaces repeatedly in the context of a broad discussion of *Gebärdensprache* (“sign

61. Janáček, “Torzo Janáčkovy fejtonu o režii,” 179 and esp. 180; in English as “Stage Direction,” 281 and esp. 283.

language”) preliminary to the analysis of verbal language, whose point of departure is a critique of the theories of gestural communication ventured in earlier decades by Herbert Spencer and Charles Darwin.⁶² For the pragmatist philosopher and psychologist George Herbert Mead, writing in response to Wundt at around the time in question here, gesture was not just one more among the various key terms dotting the disciplinary terrain of psychology around 1920. Rather, it was the fulcrum for a potential reorientation of the entire field of psychology *away* from an assumption of the *a priori* existence of the minded subject (an assumption Wundt indeed shared), toward what became known as the “social behaviorist” commitment to understanding how psychological selves might emerge from the concrete social situations in which they come to see themselves as subjects, in the mirror, as it were, of the other subjects they interact with.⁶³

There is little sense in supposing that Janáček was either aware of such (essentially North American) intellectual developments or somehow contemporaneously entertaining parallel lines of thought in Brno. But there is a case to be made for the relevance here of Wundt’s critical notion of the gesture, in Mead’s gloss, “as that which becomes later a symbol, but which is to be found in its earlier stages as a part of a social act.” This was distinguished from the Darwinian ideal, in which gestures—both animal and, in the evolutionary “descent,” human—were to be interpreted first and last as *expressions* of states of being (emotions), “very largely as if this were their sole function.”⁶⁴ In the Mead-Wundt conception, by contrast, a gesture initiates a social process requiring some response in kind from a second individual. But it is not in itself significant (“expressive”) without the subsequent or emergent confirmation that it has somehow effected a change in another and has thus called out a countergesture, which in turn assumes significance only in the altered attitude of the communicative partner. Gesture—and Mead ultimately extended this term to speech, to the so-called vocal gesture—could not *simply* symbolize or express some psychological state, since that would presume a belief in a preexistent integral self that could not be rationally justified without reference to the self’s ongoing social emergence.

Mead’s analysis of the gesture (in short, as “social” before “symbolic”) throws light on a comment Benjamin makes about Franz Kafka, which readily extends to Janáček’s late music: namely, that his “entire oeuvre constitutes a

62. Wundt, *Völkerpsychologie*, vol. 1, *Die Sprache*, part 1, esp. chap. 2, “Die Gebärdensprache,” 136–247. Here, for once, the specifics of Janáček’s reading are less well documented; nowhere does he cite the *Völkerpsychologie* outright. Given the peculiarity of the term *Gebärdenspiel* (which is not to be found in the *Grundzüge*) and its attribution to Wundt, however, there can be little doubt about its ultimate provenance.

63. The key text is Mead, *Mind, Self, and Society from the Standpoint of a Social Behaviorist*. As it did for Janáček, a distinctive reading of Wundt can be said to have crystallized Mead’s mature intellectual perspectives.

64. Mead, “Wundt and the Concept of the Gesture,” in *ibid.*, 42–45. For Wundt’s original critique, see his *Völkerpsychologie*, 1:74–85.

code of gestures which surely had no definite symbolic meaning for the author from the outset; rather, the author tried to derive such a meaning from them in everchanging contexts and experimental groupings.”⁶⁵ Yet, for obvious reasons, the social behaviorist discourse on gesture resists immediate transfer into artistic contexts, where actions are conventionally denied the possibility of immediate reactions beyond the page or proscenium arch (at least in Western classical contexts). Perhaps it was inevitable that where Mead's reading of Wundt inspired the image of a dogfight, with its rapidly shifting “dialogue” of movements and attitudes, Janáček's freely associated image of the *Gebärdenspiel* was one of relative social isolation. Referring to the eponymous character of a Russian novel about the paralysis of the decadent nobility in the nineteenth century, Janáček muses that “when I. Goncharov's Oblomov inhaled, it [i.e., the game of gestures] was present.”⁶⁶ In other words, even a single breath ought to be thought of as constituting a gesture worthy of dramatic attention. What, though, could be less “social” than the biological compulsion to breathe? In what sense might such an action be interpreted as calling out another in order to render it significant on a wider stage? However uneasy the conceptual alignments here, Mead's interpretation of Wundt, distilled to its core insight, nevertheless makes available to us a germane conception of gesture as something semiotically and psychologically provisional, incomplete. The gesture is an incipit. It does not simply mean, but awaits meaning. In this light, Janáček's image of a nobleman confined to his bed, intensely aware of the minutest fluctuation in his breathing while perpetually putting off the activities proper to his station, aptly captures the simultaneously *anticipatory and delaying* character of movement appropriate to the Wundtian gesture. This quality is perceptible in the sheer animality of the emblematic Oblomov, his tetheredness to material exigencies, his atavistic moment-to-moment consciousness and inability to leap into the continuity of efficacious action (Kafka's better-known Gregor Samsa, the man-become-bug confined to his bedroom, does not lie far off), all of which is ironically implicated in Janáček's otherwise innocent vision of a new gestural science.

To return to an especially clear musical example, it is not difficult to perceive how the animal gestures of the *Concertino* initiate motions that seem

65. Benjamin, “Franz Kafka,” 801. Brigid Doherty, in “Test and *Gestus* in Brecht and Benjamin,” studies Benjamin's various comments on gesture in relation to the “psychotechnical aptitude testing” of the interwar period, developing one possible link between some of the psychological contexts explored here and wider modernist discourses. Also see the discussion of behaviorism, gesture, and the critique of expression in Lethen, *Cool Conduct: The Culture of Distance in Weimar Germany*, esp. 74–100.

66. “J. Gončarovu Oblomovi neušla ani u nádechů.” Janáček, “Torzo Janáčková fejetonu o režii,” 180; trans. as “Stage Direction,” 283. A passage near the novel's opening provides the relevant image: “His movements, too, even when he was excited, were kept in check by a certain kind of mildness and laziness which was not without its own touch of gracefulness. . . . All his anxiety resolved itself into a sigh and dissolved into apathy or drowsiness.” Goncharov, *Oblomov* [1859], 13–14.

to adumbrate things to come without in fact following through to produce rhetorical continuity or closure, and might further (and more imaginatively) be heard as awaiting some unforthcoming response in kind from without. The squirrelly/chronoscopic two- and three-eighth-note modules of the second movement return again and again but never blossom into full-blown melodic ideas. Of course it is true that these gestures' incipience is mitigated to a certain extent by their iterative concatenation into conventional larger structures. Thus, just as measures 1–17 of *In the Mists'* fourth movement (Ex. 1, p. 655) can be heard as a loose-knit Schoenbergian *Satz* or “sentence” with a two-fold presentation followed by a fragmented continuation and a cadence, measures 1–12 of the *Concertino's* second movement (Ex. 4, p. 674) form a clear period. (The periodic structure is treated sequentially in mm. 13–24, where it recurs up a half-step, further sharpening the profile of what was already a patently assimilable formal model.) Perhaps Janáček's forms suppress the potentialities inherent in their constituent parts. But despite all formal cleanliness, it is difficult to resist the feeling of a wellspring of untapped potential energy behind each reiteration of the constituent musical ideas. Janáček plays ferociously on the implications of checked movement at the end of the first section, measures 25–35 (Ex. 6), where the piano's manic, downbeatless eighth-note groups (at a metronome marking of 132) go breathless in the search for a safe tree-branch, finally landing as if by mere chance on a C-minor chord (m. 35) that concludes the section only by *force majeure*. In the inscrutable movements of Janáček's small animals, each delicate jerk this way and that appears to serve some larger end, to which an observer remains irremediably blind. The inhibited apprehension of purpose one experiences while observing this behavior would, then, underscore the notion of a merely preliminary sense of meaning. The animal gesture is neither absolutely opaque nor finally interpretable beyond a searching, initial, and perhaps only momentary essay.⁶⁷ Again as in Benjamin's reading of Kafka, the “animal gesture combines the utmost mysteriousness with the utmost simplicity” and thus “divests the human gesture of its traditional supports,” creating “a subject for reflection without end.”⁶⁸

67. *The Cunning Little Vixen*, some of whose animal characters are portrayed by singers who play humans elsewhere in the opera, is predicated on the notion that human and animal behaviors are often experienced as enriched misrememberings of each other, so that any point about the one extends easily enough to the other. Related suggestions are explored in Mellers, “*Tapiola's* Search for Oneness and *Cunning Little Vixen* as a Parable of Redemption.”

68. Benjamin, “Franz Kafka,” 802. As suggestive as their shared fascination for animal gesturality is, it would be unwise to draw overly narrow conclusions from the parallels between Kafka and Janáček. In the early 1920s, Kafka himself reportedly dismissed the theme of human-animal metamorphosis or mirroring as merely “a matter of the age” in light of the numerous other works dealing with related figures of thought. A case in point was David Garnett's recent novel, *Lady into Fox*. Janouch, *Conversations with Kafka*, 22–23. Martinů's animal ballet, *Who Is the Most Powerful in the World?* (1922), and Josef and Karel Čapek's satirical play, *The Life of the Insects*

Example 6 Janáček, *Concertino*, mvt. 2, mm. 25–35. Copyright © 1980 by Edition Peters. Used by permission of C. F. Peters Corporation. All rights reserved.

The musical score is presented in three systems. The first system (measures 25-28) shows a melody in the right hand with eighth-note pairs and slurs, and a piano accompaniment in the left hand with chords and eighth notes. Dynamics include *f* and *mf*. The second system (measures 29-32) continues the melodic and accompanimental patterns. The third system (measures 33-35) begins with a trill in the right hand, followed by a melodic phrase and a final chord. Dynamics include *sf*.

Perhaps the same could be said of “expressive” acts in general; their demand for interpretation is self-evident. In reading Wundt on gesture as I just have, however (with Janáček, but through Mead), my gambit is not to make a superfluous claim for the gesture’s obvious semiotic incompleteness as a *general* disposition, but rather to isolate the peculiar way in which the figures

(1921), in which human and animal characters interact to similarly ambiguous effect, likewise testify to the theme’s local popularity.

of both the animal and the chronoscope operate in Janáček as special “scenes” or “stagings” in which a uniquely self-conscious type of gesture might unfold. In emphasizing fragmentary and provisional qualities in gestures, these figures of his poetic universe jointly call attention to the effortful, stagey qualities of the kind of poetic disposition one encounters in this music. Like so many early modernists, Janáček dramatizes the *materials* of music and musical expression—the collision of raw tone sensations, the fitful, awkward, and often failed attempts at piecing together a compelling lyrical voice, and so on—without being commensurately interested in bringing these materials to bear in some final continuity. “Each gesture is an event—one might even say, a drama—in itself.”⁶⁹ It is as if, once mindful of the infinity of steps involved in treading this path, the composer is unconcerned or unwilling to go the distance, letting these component gestures stand, pointing outward, as if acknowledging some constraint on the possibility of continuity. This is a far cry from saying that Janáček never acted on principles of Brahmsian development. Yet his attentiveness to sensory particularity, engaged at various moments in his work from the notion of *spletna* to speech-melody to the chronoscope, would seem to valorize the experience of *limiting* continuity, of allowing some event to transpire only then to pause for reflection on its peculiarity (which, ironically, may indeed result from its having been interrupted in the first place). Even when such a mode of listening coexists with the lyrical, the latter does not seem to be its “natural” environment. Rather, again, the elements seem to be mutually limiting. Or, as Janáček’s notes on stage direction have it, in a formulation recalling Wundt’s *Schauspiel* of mental life, “Every manner of expression—gestures as well as verbal-musical expression—mutually limits one another. The stage for this action is our consciousness.”⁷⁰

In what at first seems a similar evaluation, Milan Kundera claims that Janáček’s signal accomplishment was to have developed a musical poetics capable of resisting “the loss of the fleeting reality of the present.” Recalling Brod, Kundera identifies this accomplishment with a literary tradition stemming from Gustave Flaubert, whose realist impulses here extend into the early modernism normally thought to reject them:

Capturing the concreteness of the present has been one of the continuing trends that, since Flaubert, was to mark the evolution of the novel: it would reach its apogee, its very monument, in James Joyce’s *Ulysses*, which in nearly eight hundred pages describes eighteen hours of life. . . . In Joyce, a single second of the present becomes a little infinity. . . . In the history of opera, a half century later, Janáček accomplished that same Flaubertian revolution.⁷¹

69. Benjamin, “Franz Kafka,” 802.

70. “Všechny způsoby výrazů—posunky i slovesně hudební výraz—se vzájemně obmezují. Dějiště toho je naše vědomí.” Janáček, “Torzo Janáčkovy fejetonu o režii,” 179; in English as “Stage Direction,” 282; translation modified.

71. Kundera, “À la recherche du présent perdu,” in *Testaments Betrayed*, 129 and 133.

The suggestion that the composer repeatedly turned the aesthetic or affective promise of the fraction of a second into an occasion for vastly extended study and reflection has indeed been one of the circumstances whose historical conditions this discussion has aimed to sketch out, in however provisional and speculative a manner. But where, for Kundera, Janáček's motley realist-naturalist-modernist tradition *excludes* theatricality (an exclusion all the more "shocking, audacious, unexpected" for an opera composer, since "it contravenes the principle of unrealism and extreme stylization that seemed inseparable from the very essence of opera"), this essay has instead drawn out the stylized theatrical quality that asserts itself at key moments in Janáček's work, even well outside the operatic genre.⁷²

It is worth revisiting, finally, the putative affinity between the temporality of the chronoscope and Janáček's interest in animal gesturality. The first seems marked by an interstitial, the second by an incipient quality. Both converge on a pattern in which events are defined by means of repeated and rapid interruptions. "It is like zigzag lightning only after which the thunder roars," writes Janáček in his notes on stage direction, apparently referring to the effect of a gesture placed carefully in the pause before a subsequent musical passage.⁷³ But he might as well have been describing the more general effect of isolating snippets of overheard speech or meditating on the contours of some minute and short-lived physical motion. In each case, responding to the suddenness of the event, one experiences an impulsive retrospective attunement to fleeting sensory marginalia, as if the normal mode of response to such aesthetic events is simply to ask, "What just happened?" The chronoscope, if it did nothing else, at least would have constituted the scene on which this peculiarly self-conscious and interruptive attitude toward perception and the gesture could have unfolded. It formed a method of *checking*, in both senses of the word, the progress of experience at every enunciative and melodic turn.

The obsession with detail and brevity might be read as the ill-defined indication of a group of incipient narratives—not just musical ones, but also, on other levels, the painstaking history of knowledge- and discipline-formation envisioned by Wundt, or the sort of highly theorized process of "self"-formation envisioned by Mead. It is an unremarkable commonplace that many of the scientific and aesthetic modernisms of the era, in their most type-cast forms, shared the belief in historical progress these latter processes exemplify. But it is the particular rhythm, terrain, or grain of that progress that has been of special interest here: piecemeal, slow, constantly obstructed by practical and cognitive pits and fissures, ultimately self-defeating and yet ever

72. *Ibid.*, 138. (*Why* Janáček and Flaubert have been so insistently paired—at least by Brod, Dahlhaus, and Kundera—is a less straightforward question than I have been able to address here.)

73. "Je jak klikatý blesk, za nímž teprve hrom burácí." Janáček, "Torzo Janáčkovy fejetonu o režii," 176; in English as "Stage Direction," 276. The example thus goes to support Janáček's argument in the notes on stage direction that gesture, music, and word should avoid either stepping on each other's toes or contradicting one another.

optimistic and anticipating its own future. Each of the experimental setups designed by Wundt or his laboratory workers might take days or weeks to implement and interpret, and might be seen as having moved knowledge of human psychology “forward” only by some negligible measure, however locally significant it might appear within the microculture of the experimental scene. No matter the quantity of labor already invested in the program, one both still stands at its beginning and yet remains convinced that the end is in sight. That the ironic effect of such experiments was to throw its subjects into a situation of disorienting speed—while also revealing to them the undreamt-of slowness of their own cognition—surely has perceptible, and still unanalyzed, consequences for Janáček’s poetics. Anyone who has listened to Janáček attentively is likely to have appreciated the simultaneous and conflicting sensations of speed and sluggishness it often induces. If we are at least to some degree correct to perceive in his work, at least at certain moments, a counterintuitive deferral of expressiveness, and a deferral of the psychological plenitude that would subtend expression—deferrals with their own peculiar temporal implications—then precisely these sorts of complex temporalities ought to interest us all the more, not only in his music but also in writing its history.

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Abstract

Leoš Janáček's fascination with the trappings of experimental psychology has boosted his image as a kind of realist, for whom empirical engagement with psychological experience was a prerequisite for aesthetic value. Yet careful contextualization of the sources he drew upon in later years suggests that such discourses—above all, the work of Wilhelm Wundt—work ironically *against* the constitution of the expressive subjectivity we are used to inferring in his work. An emblematic case in point is Janáček's use of an experimental research instrument known as the "chronoscope," which psychologists had traditionally used for studying reaction times, a formative concern for the discipline since its emergence in the 1870s. While remarkable for its utility in accurately measuring extremely short durations, the chronoscope also highlighted the temporal limits of perception. It appealed to the composer's obsession with minute details of sensation, but it can also be seen to raise questions about the

integrity or continuity of the very image of subjectivity it was meant to ascertain. The conjunction of the chronoscope's dramatization of short timespans and Janáček's related concern for the calibrated gesture together suggest a mode of interpretation through which the expressive impulse in his music may be sensed as incipient, in a state of deferral, rather than as the immediate manifestation of an integral lyrical self.

Keywords: Leoš Janáček, Wilhelm Wundt, chronoscope, psychology, modernism