

ONE  
Modernity and the  
Problem of Attention

*The constant continuity of the process, the unobstructed and fluid transition of value from one form into the other, or from one phase of the process into the next, appears as a fundamental condition for production based on capital.*

—Karl Marx, *Grundrisse*

*Almost all the problems of philosophy once again pose the same form of question as they did two thousand years ago: how can something originate in its opposite, for example rationality in irrationality, the sentient in the dead, logic in unlogic, disinterested contemplation in covetous desire, living for others in egoism, truth in error?*

—Friedrich Nietzsche, *Human, All Too Human*

One of the most important nineteenth-century developments in the history of perception was the relatively sudden emergence of models of subjective vision in a wide range of disciplines during the period 1810–1840. Dominant discourses and practices of vision, within the space of a few decades, effectively broke with a classical regime of visuality and grounded the truth of vision in the density and

materiality of the body.<sup>1</sup> One of the consequences of this shift was that the functioning of vision became dependent on the complex and contingent physiological makeup of the observer, rendering vision faulty, unreliable, and, it was sometimes argued, arbitrary. Even before the middle of the century, an extensive amount of work in science, philosophy, psychology, and art involved a coming to terms in various ways with the understanding that vision, or any of the senses, could no longer claim an essential objectivity or certainty. By the 1860s, the scientific work of Hermann von Helmholtz, Gustav Fechner, and many others had defined the contours of a general epistemological uncertainty in which perceptual experience had lost the primal guarantees that once upheld its privileged relation to the foundation of knowledge. This book examines some of the components of a cultural environment in which these new truths and new uncertainties about perception were being contested and reconstructed, within both visual modernism and a modernizing mass visual culture, beginning in the late 1870s.

The idea of subjective vision—the notion that our perceptual and sensory experience depends less on the nature of an external stimulus than on the composition and functioning of our sensory apparatus—was one of the conditions for the historical emergence of notions of autonomous vision, that is, for a severing (or liberation) of perceptual experience from a necessary relation to an exterior world. Equally important, the rapid accumulation of knowledge about the workings of a fully embodied observer disclosed possible ways that vision was open to procedures of normalization, of quantification, of discipline. Once the empirical truth of vision was determined to lie in the body, vision (and similarly the other senses) could be annexed and controlled by external techniques of manipulation and stimulation. This was the decisive achievement of the science of psychophysics in the mid-nineteenth century, which, by apparently rendering sensation measurable, embedded human perception in the domain of the quantifiable and the abstract. Vision, conceived in this way, became compatible with many other processes of modernization, even as it also opened up the possibility of visual experience that was intrinsically nonrationalizable, that exceeded any procedures of normalization. These developments are part of a critical historical turning point in the second half of the nineteenth century at which any significant qualitative difference between life and technics begins to evaporate. The disintegration of an indis-

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1. See my *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century* (Cambridge: MIT Press, 1990). Extrapolating from the work of Foucault, I use the word *classical* to describe theories and practices of vision during the period 1660–1800, which persisted in partial forms well into the nineteenth century.

putable distinction between interior and exterior becomes a condition for the emergence of spectacular modernizing culture and for a dramatic expansion of the possibilities of aesthetic experience. The relocation of perception (as well as processes and functions previously assumed to be “mental”) in the thickness of the body was a precondition for the instrumentalizing of human vision as a component of machinic arrangements; but it also stands behind the astonishing burst of visual invention and experimentation in European art in the second half of the nineteenth century.

More specifically since the late nineteenth century, and increasingly during the last two decades, capitalist modernity has generated a constant re-creation of the conditions of sensory experience, in what could be called a revolutionizing of the means of perception. For the last 100 years perceptual modalities have been and continue to be in a state of perpetual transformation, or, some might claim, a state of crisis. If vision can be said to have any enduring characteristic within the twentieth century, it is that it has no enduring features. Rather it is embedded in a pattern of adaptability to new technological relations, social configurations, and economic imperatives. What we familiarly refer to, for example, as film, photography, and television are transient elements within an accelerating sequence of displacements and obsolescences, part of the delirious operations of modernization.

At the moment when the dynamic logic of capital began to dramatically undermine any stable or enduring structure of perception, this logic simultaneously attempted to impose a disciplinary regime of attentiveness. For it is in the late nineteenth century, within the human sciences and particularly the nascent field of scientific psychology, that the problem of *attention* becomes a fundamental issue.<sup>2</sup> It was a problem whose centrality was directly related to the emergence of a social, urban, psychic, and industrial field increasingly saturated with sensory input. Inattention, especially within the context of new forms of large-scale industrialized production, began to be treated as a danger and a serious problem, even though it was often the very modernized arrangements of labor that produced inattention.<sup>3</sup> It is possible to see one crucial aspect of modernity as an ongoing

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2. As my friends and close colleagues well know, I've been engaged with the historical and cultural problem of attention since the late 1980s, initially setting up some of the terms of my interests in “Attention, Spectacle, Counter-Memory,” *October* 50 (Fall 1989), pp. 97–107. Early sections of the present chapter and parts of chapter two appeared as “Unbinding Vision,” *October* 68 (Spring 1994), pp. 21–44; and my “Attention and Modernity in the Nineteenth Century” was included in Caroline Jones and Peter Galison, eds., *Picturing Science, Producing Art* (New York: Routledge, 1998), pp. 475–499.

3. Marx discusses how, even by the 1840s, factory management understood that “the extent of vigilance and attention on the part of the workmen was hardly capable of being increased” and that

crisis of attentiveness, in which the changing configurations of capitalism continually push attention and distraction to new limits and thresholds, with an endless sequence of new products, sources of stimulation, and streams of information, and then respond with new methods of managing and regulating perception. Gianni Vattimo has noted that “the intensification of communicative phenomena and the increasingly prominent circulation of information . . . are not merely aspects of modernization amongst others, but in some way the center and very sense of this process.”<sup>4</sup> But at the same time, attention, as a historical problem, is not reducible to the strategies of social discipline. As I shall argue, the articulation of a subject in terms of attentive capacities simultaneously disclosed a subject incapable of conforming to such disciplinary imperatives.

Since Kant, part of the epistemological dilemma of modernity has been defining a human capacity for synthesis within the fragmentation and atomization of a cognitive field. That dilemma becomes especially acute in the second half of the nineteenth century alongside the development of various techniques for imposing specific kinds of perceptual synthesis, from the mass diffusion of the stereoscope in the 1850s to early forms of cinema in the 1890s. The nineteenth century saw the steady demolition of Kant’s transcendental standpoint and its synthetic a priori categories, detailed in his first critique. Kant argued that all possible perception could occur only in terms of an original synthetic unification principle, a self-cause, that stood over and above any empirical sense experiences such as vision. “Unity of synthesis according to empirical concepts would be altogether accidental, if these latter were not based on a transcendental ground of unity. Otherwise it would be possible for appearances to crowd in upon the soul. . . . Since connection in accordance with universal and necessary laws would be lacking, all relation of knowledge to objects would fall away.”<sup>5</sup> Once the philosophical guarantees of any a priori cognitive unity collapsed (or once the possibility of the self imposing its unity onto the world, in post-Kantian idealism, became untenable), the problem

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shortening the working day, and thus taxing less the worker’s attentiveness, resulted in increases in productivity. See Karl Marx, *Capital*, vol. 1, trans. Samuel Moore and Edward Aveling (New York: International, 1967), pp. 410–412. On the shift from the moral discipline and paternalist organization of labor in the first half of the nineteenth century to the more rationalized management of production and time, see Michelle Perrot, “The Three Ages of Industrial Discipline in Nineteenth-Century France,” in John M. Merriman, ed., *Consciousness and Class Experience in Nineteenth-Century France* (New York: Holmes and Meier, 1979), pp. 149–168.

4. Gianni Vattimo, *The Transparent Society*, trans. David Webb (Baltimore: Johns Hopkins University Press, 1992), pp. 14–15.

5. Immanuel Kant, *Critique of Pure Reason*, trans. Norman Kemp Smith (New York: St. Martin’s, 1965), p. 138.

of “reality maintenance” gradually became a function of a contingent and merely psychological capacity for synthesis or association.<sup>6</sup> Schopenhauer’s substitution of the will for Kant’s transcendental unity of apperception is an event with many aftershocks, for it implied that the perceived wholeness of the world was no longer the apodictic product of Law but depended on a potentially variable *relation of forces*, including external forces outside the subject’s control.<sup>7</sup> It became imperative for thinkers of all kinds to discover what faculties, operations, or organs produced or allowed the complex coherence of conscious thought.<sup>8</sup> The failure or malfunction of a capacity for synthesis, often described as dissociation, became linked in the late nineteenth century with psychosis and other mental pathologies. But what was often labeled as a regressive or pathological disintegration of perception was in fact evidence of a fundamental shift in the relation of the subject to a visual field. In Bergson’s work, for example, new models of synthesis involved the binding of immediate sensory perceptions with the creative forces of memory. Wilhelm Dilthey discussed at length the creative forms of synthesis and fusion that are specific to the activity of the human imagination. For Nietzsche synthesis was no longer the constitution of truth but rather a shifting alignment of forces that was endlessly creative and metamorphic.

The American psychologist G. Stanley Hall, writing in 1883, pessimistically reflected on the repercussions of accepting this contingency as a condition of knowledge: “Does life cultivate the mind only in spots or nodes, and are these so imperfectly bound together by associative and apperceptive processes that special stress upon one of them causes it to isolate itself still more till the power of self-direction is lost, and devolution and disintegration slowly supervene?”<sup>9</sup> For institutional psychology in the 1880s and 1890s, part of psychic normality was the ability

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6. Victor Cousin exemplifies a wider sense of dismay at the rise of “psychological” explanation within epistemology: “Now as soon as the laws of reason are degraded to being nothing but laws relative to the human condition, their whole compass is circumscribed by the sphere of our personal nature, and their widest consequences, always marked with an indelible character of subjectivity, engender only irresistible persuasions, if you please, but no independent truths.” Cousin, *Elements of Psychology*, trans. Caleb Henry (New York: Ivison & Phinney, 1856), pp. 419–420.

7. Arthur Schopenhauer, *The World as Will and Representation* (1844), trans. E. F. J. Payne (New York: Dover, 1966), vol. 2, p. 137.

8. By the 1850s, a range of interpretations of Kant “turned the a priori forms into ‘innate laws of the mind,’” often with a neurological substrate, according to Klaus Kohnke, *The Rise of Neo-Kantianism: German Academic Philosophy Between Idealism and Positivism*, trans. R. J. Hollingdale (Cambridge: Cambridge University Press, 1991), p. 98. Kohnke provides a valuable discussion of the persistent question of “apriority,” particularly in the work of the neo-Kantians Alois Riehl and Hermann Cohen in the 1870s.

9. G. Stanley Hall, “Reaction Time and Attention in the Hypnotic State,” *Mind* 8 (1883), pp. 171–182.

to synthetically bind perceptions into a functional whole, thereby warding off the threat of dissociation, or of what Kant saw as perceptions “crowding in upon the soul.” The German psychologist Oswald Kulpe insisted that without a capacity for attention, “consciousness would be at the mercy of external impressions . . . thinking would be made impossible by the noisiness of our surroundings.”<sup>10</sup> The operation of vision itself, with all its physiological idiosyncrasies and inconsistencies, was not sufficiently lawlike to function reliably without the “juridical” intervention of attention to hold together sensory data.<sup>11</sup>

The anti-modernist Max Nordau was one of the most widely read writers to link a failure of attentiveness with sociopathic behavior, but his diatribes were not far from the social determinations underpinning the work of more sober, scientific authorities like Ribot:

Untended and unrestrained by attention, the brain activity of the degenerate and hysterical is capricious and without aim or purpose. Through the unrestricted play of association representations are called into consciousness and are free to run riot there. They are aroused and extinguished automatically; and the will does not interfere to strengthen or to suppress them. . . . Weakness or want of attention, produces, then, in the first place false judgements respecting the objective universe, respecting the qualities of things and their relations to each other. Consciousness acquires a distorted and blurred view of the external world. . . . Culture and command over the powers of nature are solely the result of attention; all errors, all superstition, the consequence of defective attention.<sup>12</sup>

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10. Oswald Kulpe, *Outlines of Psychology* (1893), trans. Edward Bradford Titchener (London: Sonnenschein, 1895), p. 215.

11. In the 1880s, Yale psychology professor George Trumbull Ladd suggested the cognitive inadequacy of the “retinal”: “Many retinal images admit of two or more interpretations—which interpretation will be chosen depends upon a variety of circumstances that perhaps cannot all be accurately defined. . . . Anyone accustomed to studying the effect of the colored points and outlines which appear in the image seen with closed eyes by the retina’s own light, knows how apparently lawless is the interpretation given to this image. This is especially true when attention is somewhat relaxed—as, for example, on sinking into reverie or sleep. Much of the ‘stuff’ out of which the phenomena of dreams are made, may be suggested and controlled by the condition of the ‘retinal field.’ In all these cases, *only a sharper attention* and more objective view of things is needed to dispel the illusion and make us aware how scanty is the schema, as it were, out of which, by association and reproduction, we have constructed our presentations of sense.” Ladd, *Elements of Physiological Psychology* (New York: Scribner’s, 1887), pp. 446–447; emphasis added.

12. Max Nordau, *Degeneration* (1892; New York: Appleton, 1895), p. 56. Nordau’s work had been preceded by numerous more “scientific” studies of his subject. Mental degeneration, including defective attentiveness, is discussed in the context of larger cosmic and devolutionary processes of decline

Attention for Nordau, and in a less extreme way for many others, was a repressive and disciplinary defense against all potentially disruptive forms of free association. The words of British psychologist James Cappie in the 1880s are perhaps more typical: “It is unnecessary to enlarge on the psychological importance of this function. It may be said to underlie every other mental faculty. It is the bringing of the consciousness to a focus in some special direction . . . without it meaningless reverie will take the place of coherent thought.”<sup>13</sup> Attention thus became an imprecise way of designating the relative capacity of a subject to selectively isolate certain contents of a sensory field at the expense of others in the interests of maintaining an orderly and productive world.



Obviously notions of attention and attentiveness exist in many different places long before the nineteenth century, going back to St. Augustine and earlier, and even a summary outline of their history would be enormous.<sup>14</sup> My aim here is simply to indicate how, in the second half of the nineteenth century, attention becomes a fundamentally new object within the modernization of subjectivity. In most cases before the nineteenth century, it had a local importance in matters of education, self-fashioning, etiquette, pedagogical and mnemonic practices, or scientific inquiry.<sup>15</sup> Even when attention was an object of philosophical reflection,

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in Henry Maudsley, *Body and Will* (New York: Appleton, 1884). Both these texts are examined in Daniel Pick, *Faces of Degeneration: A European Disorder, c. 1848–1918* (Cambridge: Cambridge University Press, 1989).

13. James Cappie, “Some Points in the Physiology of Attention, Belief and Will,” *Brain* 9 (July 1886), p. 201.

14. Augustine characterizes human attention in terms of its essential temporality, unlike divine knowledge: “Nor does God’s attention pass from one thought to another; all things which he knows are present at the same time to his incorporeal vision. He knows events in time without any temporal acts of knowledge.” *City of God*, trans. Henry Bettenson (London: Penguin, 1972), p. 452. Some Augustinian elements reappear much later in Malebranche’s discussion of attention, a discussion that is otherwise a product of the Cartesian intellectual milieu of late seventeenth-century France. In one of the great European attempts at an ontology of perception, Malebranche outlines a fundamental ambivalence about attention because it is too bound up in the passions and the senses, which can divert the mind from “contemplation of purely intelligible truths.” “Nonetheless, as the soul cannot be without passions, sensations, or some other particular modification, we must make a virtue of necessity and draw even from these modifications assistance in making ourselves more attentive.” Nicolas Malebranche, *The Search after Truth* (1675), trans. Thomas M. Lennon and Paul J. Olscamp (Cambridge: Cambridge University Press, 1997), pp. 413–418. In his essay “Time and Creation,” Cornelius Castoriadis discusses the importance of attention to the conception of subjective time in Augustine and Husserl; in Castoriadis, *World in Fragments*, trans. David Ames Curtis (Stanford: Stanford University Press, 1997), pp. 374–401.

15. Descartes’s discussion of *admiration* or wonderment in *The Passions of the Soul* defines some of the terms of a fundamentally different historical regime of attention. See *The Philosophical Writings of Descartes*, vol. 1, trans. John Cottingham et al. (Cambridge: Cambridge University Press, 1985), pp. 354–356: “Of wonder, in particular, we may say that it is useful in that it makes us learn and retain in

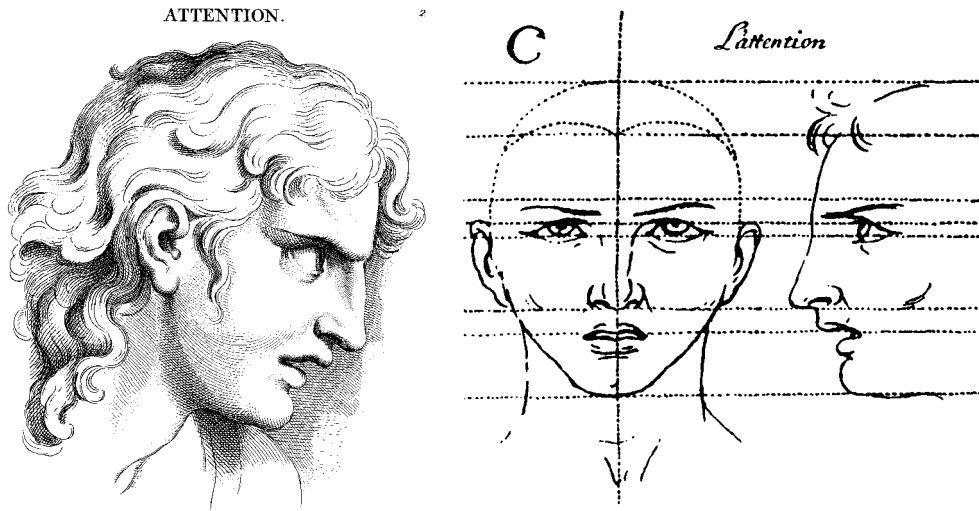
it was a marginal, at best secondary problem within explanations of mind and consciousness that either did not constitutively depend on it or in which it was one of a constellation of equally significant and mutually dependent faculties.<sup>16</sup> Attention figures in Condillac's epistemology, for example, but he situates it as simply one element of many contributing to the necessarily *unified* operation of mental life, whereas in the period I am examining attention was an essential but fragile imposition of coherence and clarity onto the dispersed contents of consciousness.<sup>17</sup> At the same time, for Condillac, attention was a matter of the *force* of a sensation, an effect of an event external to the subject. In this sense he is not altogether distinct from eighteenth-century British philosophy with its models of a mind as passive receiver of sensation, models that had no need of an idea of attention (the word is of marginal significance in the work of Locke, Hume, and Berkeley if present at all). Attention, as it was conceived in the later nineteenth century, is radically alien to an eighteenth-century notion of mental activity as a stamp or a

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our memory things of which we were previously ignorant. For we wonder only at what appears to us unusual and extraordinary. . . . When something previously unknown to us comes before our intellect or our senses for the first time, this does not make us retain it in our memory unless our idea of it is strengthened in our brain by some passion, or perhaps also by an application of our intellect as fixed by our will in a special state of attention and reflection." For a superb account of this tradition of admiration/wonderment, see Lorraine Daston, "Curiosity in Early Modern Science," *Word and Image* 11, no. 4 (October–December 1995), pp. 391–404, esp. p. 401: "Seventeenth-century natural philosophers regularly paired 'inquisitive' with 'industrious'; 'attention' with 'diligence'. By the mid-eighteenth century, it had become the moral criterion by which to distinguish the serious savant from the frivolous amateur, for only the former was capable of converting 'noble curiosity' into 'work and continued application' by 'use of attention'. . . . The unswerving, penetrating attention which scientific investigation was thought to require slackened without curiosity, and curiosity was triggered by wonder. Attention screwed to this virtuoso pitch amounted to intellectual possession." See also the historicization of curiosity and attention in Krzysztof Pomian, *Collectors and Curiosities: Paris and Venice 1500–1800*, trans. Elizabeth Wiles-Portier (Cambridge: Polity, 1990), pp. 57–64; and Lorraine Daston and Katharine Park, *Wonders and the Order of Nature 1150–1750* (New York: Zone Books, 1998), pp. 311–328.

16. Referring to the work of Albrecht von Haller, Thomas Hartley, and others, Karl M. Figlio summarized a key model of eighteenth-century epistemological thought: "The understanding was built up from sensations combined by association. Sensations were focused upon by attention, which allowed the comparison of ideas derived from them. In the comparison and evaluation of two or more ideas lay the essence of reason and judgment. Imagination and memory implied the presentation, in the absence of external impressions, of ideas already preserved in the common sensory. In all these operations, the mind was determined in its actions *by the impressions thrust upon it*." Karl M. Figlio, "Theories of Perception and the Physiology of Mind in the Late Eighteenth Century," *History of Science* 7 (1975), p. 197; emphasis added.

17. Etienne Bonnot de Condillac, "Essay on the Origin of Human Knowledge," in *Philosophical Writings of Etienne Bonnot, Abbe de Condillac*, vol. 2, trans. Franklin Philip (Hillsdale, N.J.: Lawrence Erlbaum, 1987), pp. 441–455. On the function of unification as the basic role of reason, see Ernst Cassirer, *The Philosophy of the Enlightenment* (Princeton: Princeton University Press, 1951), pp. 21–27. See also the discussion of Condillac's "theatrical" model of attention and other mental operations in Suzanne Gearhart, *The Open Boundary of History and Fiction* (Princeton: Princeton University Press, 1984), pp. 161–199.



Illustrations of “Attention” from late eighteenth-century editions of Charles Le Brun’s treatise on the expression of the passions.

mold that will somehow fix or preserve the constancy of objects.<sup>18</sup> In historical discussions of the problem of attention, one often encounters the claim that the modern psychological category of attention is continuous with notions of apperception that were important in different ways for Leibniz and Kant.<sup>19</sup> But in fact what is crucial is the unmistakable historical discontinuity between the problem of attention in the second half of the nineteenth century and its place in European thought in previous centuries.

As I suggested earlier, there were two important conditions for the emergence of attention as a major problem in accounts of subjectivity. The first was

18. In the thousand or more pages of his *Essay*, John Locke mentions attention only briefly, as a sub-component of the faculty for *retention*. “Attention and repetition help much to the fixing any ideas in the memory” (p. 194) and “When the ideas that offer themselves . . . are taken notice of, and, as it were, registered in the memory, it is attention” (p. 299). *An Essay Concerning Human Understanding*, 1st ed. (1690), vol. 1 (New York: Dover, 1959). See Michael Baxandall’s discussion of attention in relation to the paintings of Chardin and the notion of Distinctness in Locke, in *Patterns of Intention: On the Historical Explanation of Pictures* (New Haven: Yale University Press, 1985), pp. 74–104.

19. See, for example, Gardner Murphy and Joseph K. Kovach, *Historical Introduction to Modern Psychology*, 3d ed. (San Diego: Harcourt, Brace, Jovanovich, 1972), pp. 23–24. See also the historical survey in Gary Hatfield, “Attention in Early Scientific Psychology,” in Richard D. Wright, ed., *Visual Attention* (Oxford: Oxford University Press, 1998), which finds “both continuity and divergence in the last 250 years of attention research” (p. 24).

the collapse of classical models of vision and of the stable, punctual subject those models presupposed. The second was the untenability of a priori solutions to epistemological problems. This entailed the loss of any permanent or unconditional guarantees of mental unity and synthesis. There are many places in the first decades of the nineteenth century where responses to these problems were attempted. The work of philosopher Pierre Maine de Biran, in the early nineteenth century, is particularly important for demonstrating how questions of subjectivity are inseparable from the instability and uncertainty of physiological realities. His attempts to derive some *fait primitif* of selfhood, of individual freedom, and finally of the possibility of soul from the enduring experience of active, willed effort in relation to the body established the terms for subsequent epistemological and even ethical debates.<sup>20</sup> Jan Goldstein has detailed the importance of the problem of the unity of the self for Victor Cousin and others in the 1820s, who held to the general principle “Character is unity.” Cousin’s eclecticism “combined a limited reliance on sensationalism with a priori belief in the self, or *moi*, a repository of self-initiated mental activity and free will known through introspection.”<sup>21</sup> Especially during the period from 1840 to the mid-1860s, there were a variety of systemic and often convoluted attempts to propose new principles from which to deduce an effective unity of mind or thought. Usually grouped under the category of “associationism,” such work—that of J. S. Mill, Herbert Spencer, Hermann Lotze, and the early Alexander Bain, for example—simply does not give attention a significant role.<sup>22</sup> According to George Herbert Mead, “associational psychology never explained why

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20. Maine de Biran is also significant here for the way his work anticipates some later nineteenth-century notions about attention. In one sense, his notion of attention is clearly part of an earlier body of knowledge in which attention is merely one of a number of equally important and interrelated *faculties*, such as judgment, memory, perception, meditation. But Maine de Biran’s rethinking of the category of apperception opens up a new understanding of the very nature of *intuition* and leads him to a mobile and dynamic conception of the will, especially its embeddedness in motor activity, that has crucial affinities with some late nineteenth-century equations of attention and will. See, for example, Pierre Maine de Biran, *De l’apperception immédiate* (1807; Paris: J. Vrin, 1963). See also my discussion of Maine de Biran and the problematization of interiority in the early nineteenth century, in *Techniques of the Observer*, pp. 72–73.

21. Jan Goldstein, “Foucault and the Post-Revolutionary Self,” in Jan Goldstein, ed., *Foucault and the Writing of History* (Oxford: Blackwell, 1994), p. 102. See also Goldstein’s important related argument in her “The Advent of Psychological Modernism in France: An Alternative Narrative,” in Dorothy Ross, ed., *Modernist Impulses in the Human Sciences* (Baltimore: Johns Hopkins University Press, 1994), pp. 190–209.

22. The irrelevance of Bain, Mill, and associationism in general by the 1880s is signaled conclusively by James Ward’s article on “Psychology” in the ninth edition of the *Encyclopedia Britannica*, in which attention and volition figure as central categories. The place of attention in the thought of Thomas Reid, Dugald Stewart, and James Mill is differentiated from modern speculation and research in Charlton Bastian, “Les processus nerveux dans l’attention et la volition,” *Revue philosophique* 32 (April 1892), pp. 353–384.

one association rather than another was the dominant one.”<sup>23</sup> Not until the 1870s does one find attention consistently being attributed a central and formative role in accounts of how a practical or knowable world of objects comes into being for a perceiver. It would be difficult to find before 1850 an unconditional statement like Henry Maudsley’s from the early 1880s: “Whatever its nature, [attention] is plainly the essential condition of the formation and development of mind.”<sup>24</sup> I do not want to belabor this point or insist on some precise historical dividing line, but one telling piece of evidence is in the work of the enormously important physiologist William B. Carpenter, which held authoritative status not only in England but also in Europe and North America from the 1840s until well into the 1880s. In the 1853 edition of his standard textbook, attention is covered in a single paragraph and as merely one of many mental faculties such as observation, reflection, and introspection; by the 1874 edition, he devotes over fifty pages to the topic of attention, and references to it are scattered throughout many other sections of the book. Attention in 1853 was noted almost in passing as “that state in which the consciousness is actively directed to a sensorial change”; by 1874 attention has an effect “on each principal form of Mental activity” and is indispensable “for the systematic acquirement of Knowledge, for the control of the Passions and Emotions, and for the regulation of the Conduct.”<sup>25</sup> Moreover, only by the 1870s does it become, in Europe and North America, a problem that traverses a broad social and cultural field, an interrelated social, economic, psychological, and philosophical issue central to the most powerful accounts of the nature of human subjectivity. Edward Bradford Titchener, the British-born student of Wundt and one of the leading importers of German experimental psychology into America, asserted in the 1890s that “the problem of attention is essentially a modern problem,” although he was unable to grasp how the particular perceiving subject he was helping to delineate was to become a central component of institutional modernity.<sup>26</sup>

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23. Mead describes how “the psychology of attention ousted the psychology of association” in his *Mind, Self, and Society* (Chicago: University of Chicago Press, 1934), pp. 95–96.

24. Henry Maudsley, *The Physiology of Mind* (New York: D. Appleton, 1883), p. 310.

25. William B. Carpenter, *Principles of Human Physiology* (Philadelphia: Blanchard and Lea, 1853), p. 780; Carpenter, *Principles of Mental Physiology*, 4th ed. (1874; London: Kegan Paul, 1896), pp. 130–131. The later volume is a retitled expansion of the earlier. See the assessment of Carpenter’s historical significance in Edward S. Reed, *From Soul to Mind: The Emergence of Psychology from Erasmus Darwin to William James* (New Haven: Yale University Press, 1997), pp. 76–80. Also valuable is the discussion of Carpenter in Alison Winter, *Mesmerized: Powers of Mind in Victorian England* (Chicago: University of Chicago Press, 1998), pp. 287–305.

26. Edward Bradford Titchener, *Experimental Psychology: A Manual of Laboratory Practice*, vol. 1 (New York: Macmillan, 1901), p. 186. Elsewhere Titchener affirms that late nineteenth-century

By the last quarter of the nineteenth century, the specifically modern problem of attention is identifiable in many places.<sup>27</sup> In a wide range of institutional discourses and practices within the arts and human sciences, attention became part of a dense network of texts and techniques around which the truth of perception was organized and structured.<sup>28</sup> It was through the new imperatives of atten-

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“experimental psychology discovered attention” and recognized “its separate status and fundamental importance; the realization that the doctrine of attention is the nerve of the whole psychological system.” Titchener, *Lectures on the Elementary Psychology of Feeling and Attention* (New York: Macmillan, 1908), p. 171.

27. A few of the very large number of works that treat this subject during this period are William James, *The Principles of Psychology*, vol. 1 (1890; New York: Dover, 1950), pp. 402–458; Theodule Ribot, *La psychologie de l'attention* (Paris: F. Alcan, 1889); Wilhelm Wundt, *Grundzuge der physiologischen Psychologie*, vol. 2 (1874; Leipzig: Englemann, 1880), pp. 205–213; Titchener, *Experimental Psychology*, pp. 186–328; Maudsley, *The Physiology of Mind*, pp. 310–324; Kulpe, *Outlines of Psychology*, pp. 423–454; Carl Stumpf, *Tonpsychologie*, vol. 2 (Leipzig: S. Hirzel, 1890), pp. 276–317; F. H. Bradley, “Is There Any Special Activity of Attention?,” *Mind* 11 (1886), pp. 305–323; Angelo Mosso, *Fatigue* (1891), trans. Margaret Drummond (New York: G. P. Putnam), pp. 177–208; Lemon Uhl, *Attention* (Baltimore: Johns Hopkins Press, 1890); Ladd, *Elements of Physiological Psychology*, pp. 480–497, 537–547; Eduard von Hartmann, *Philosophy of the Unconscious* (1868), trans. William C. Coupland (New York: Harcourt Brace, 1931), pp. 105–108; Hall, “Reaction Time and Attention in the Hypnotic State”; Georg Elias Muller, *Zur Theorie der sinnlichen Aufmerksamkeit* (Leipzig: A. Edelmann, 1873); James Sully, “The Psycho-Physical Processes in Attention,” *Brain* 13 (1890), pp. 145–164; John Dewey, *Psychology* (New York: Harper, 1886), pp. 132–155; Hermann Ebbinghaus, *Grundzuge der Psychologie*, vol. 1 (Leipzig: Veit, 1905), pp. 601–633; Henri Bergson, *Matter and Memory* (1896), trans. W. S. Palmer and N. M. Paul (New York: Zone Books, 1988), pp. 98–107; Theodor Lipps, *Grundtatsachen des Seelenlebens* (Bonn: M. Cohen, 1883), pp. 128–139; Leon Marillier, “Remarques sur le mecanisme de l'attention,” *Revue philosophique* 27 (1889), pp. 566–587; Bastian, “Les processus nerveux dans l'attention et la volition”; James McKeen Cattell, “Mental Tests and Their Measurement,” *Mind* 15 (1890), pp. 373–380; Josef Clemens Kreibitz, *Die Aufmerksamkeit als Willenserscheinung* (Vienna: Alfred Holder, 1897); Walter B. Pillsbury, *Attention* (1906; London: Sonnenschein, 1908); J. W. Slaughter, “The Fluctuations of Attention in Some of Their Psychological Relations,” *American Journal of Psychology* 12, no. 3 (1901), pp. 314–334; Sante De Sanctis, *L'attenzione e i suoi disturbi* (Rome: Tip. dell'Unione Coop. Edit., 1896); Heinrich Obersteiner, “Experimental Researches on Attention,” *Brain* 1 (1879), pp. 439–453; Pierre Janet, “Etude sur un cas d'oubolie et d'idees fixes,” *Revue philosophique* 31 (1891), pp. 258–287, 382–407; Theodor B. Hyslop, *Mental Psychology Especially in Its Relations to Mental Disorders* (London: Churchill, 1895), pp. 291–304; William B. Carpenter, *Principles of Mental Physiology* (1874; New York: D. Appleton, 1886), pp. 130–147; Giuseppe Sergi, *La psychologie physiologique* (1885, Italian; Paris: F. Alcan, 1888), pp. 237–248; Theodor Ziehen, *Introduction to Physiological Psychology*, trans. C. C. van Liew (London: Sonnenschein, 1892), pp. 206–214; Cappie, “Some Points in the Physiology of Attention, Belief and Will”; James R. Angell and Addison W. Moore, “Reaction Time: A Study in Attention and Habit,” *Psychological Review* 3 (1896), pp. 245–258; Alfons Pilzecker, *Die Lehre von sinnlicher Aufmerksamkeit* (Munich: Akademische Buchdruckerei von F. Straub, 1889); Andre Lalande, “Sur un effet particulier de l'attention appliquee aux images,” *Revue philosophique* 35 (March 1893), pp. 284–287; John Grier Hibben, “Sensory Stimulation by Attention,” *Psychological Review* 2, no. 4 (July 1895), pp. 369–375; Jean-Paul Narayc, *Physiologie et psychologie de l'attention* (Paris: F. Alcan, 1906); Charles Sanders Peirce, “Some Consequences of Four Incapacities” (1868), in *Charles S. Peirce: Selected Writings*, ed. Philip P. Wiener (New York: Dover, 1958), pp. 39–72. Sigmund Freud, “Project for a Scientific Psychology,” in *The Origins of Psycho-analysis*, trans. Eric Mosbacher and James Strachey (New York: Basic Books, 1954), pp. 415–445; and Edmund Husserl, *Logical Investigations*, vol. 1 (1899–1900), trans. J. N. Findlay (New York: Humanities Press, 1970), pp. 374–386.

28. As I've already stated, I am using the word *perception* to indicate vision, hearing, touch, or an amalgam of several senses. Some recent studies on the importance of the auditory within problematizations of modernity include Douglas Kahn, “Introduction: Histories of Sound Once Removed,” in Dou-

tiveness that the perceiving body was deployed and made productive and orderly, whether as student, worker, or consumer. Beginning in the 1870s, there was an explosion of research and debate on this topic. It was a major issue in the influential work of Gustav Fechner, Wilhelm Wundt, Titchener, Theodor Lipps, Carl Stumpf, Oswald Kulpe, Ernst Mach, William James, and many others who interrogated the empirical and epistemological status of attentiveness. Also, the pathology of a supposedly normative attentiveness was an important part of the inaugural work in France of researchers like J.-M. Charcot, Alfred Binet, and Théodule Ribot. In the 1890s attention became a major issue for Freud, and was one of the problems at the heart of his abandonment of the “Project for a Scientific Psychology” and his move to new psychological models. This book is not concerned with whether or not there is some empirically identifiable mental or neurological capacity for attention. It is an object for me only in terms of this massive accumulation of *statements* and concrete social *practices* during a specific historical period that presumed the existence and importance of such a capacity. I use the term *attention* not to hypostatize it as a substantive object, but to refer to the field of those statements and practices and to a network of effects which they produced.<sup>29</sup> On one hand, then, I am asserting the centrality of attentiveness as a scientific object and social problem, but on the other I am emphasizing that the 1880s and 1890s generated a sprawling diversity of often contradictory attempts to explain it.<sup>30</sup> Over the next part of this chapter I will indicate some of the important elements and

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las Kahn and Gregory Whitehead, eds., *Wireless Imagination: Sound, Radio and the Avant-Garde* (Cambridge: MIT Press, 1992), pp. 1–29; Steven Connor, “The Modern Auditory I,” in Roy Porter, ed., *Rewriting the Self: Histories from the Renaissance to the Present* (London: Routledge, 1997), pp. 203–223; and Michel Chion, *Audio-Vision: Sound on Screen*, trans. Claudia Gorbman (New York: Columbia University Press, 1994). Still valuable is the historicization of sound in Walter J. Ong, *The Presence of the Word* (New Haven: Yale University Press, 1967), pp. 111–191. See also the remarks on the importance of auditory attentiveness in Jean Laplanche and J.-B. Pontalis, “Fantasy and the Origins of Sexuality,” *International Journal of Psychoanalysis* 49 (1968), p. 10: “Hearing, when it occurs, breaks the continuity of an undifferentiated perceptual field and at the same time is a sign (the noise waited for and heard in the night) which puts the subject in the position of having to answer to something. To this extent the prototype of the signifier lies in the aural sphere, even if there are correspondences in the other perceptual registers.”

29. The archive of statements about attention in the nineteenth century can also be positioned as *metaphorical* attempts to account for a range of empirical phenomenon. See Jerome Bruner and Carol Feldman, “Metaphors of Consciousness and Cognition in the History of Psychology,” in David E. Leary, ed., *Metaphors in the History of Psychology* (Cambridge: Cambridge University Press, 1990), pp. 230–238.

30. Obviously, many of the thinkers for whom attention was an issue represent dissimilar or even completely irreconcilable intellectual and philosophical positions, such as Wundt and Mach, Dilthey and Ebbinghaus, Freud and Janet, Delboeuf and Binet, Helmholtz and Hering, and so on. Even several decades into the twentieth century, there was a general awareness of the absence of a convincing empirical account of this problem. Exemplary would be George Herbert Mead’s conclusion, “The physiology of attention is still a dark continent,” in *Mind, Self, and Society*, p. 25.

consequences of these finally unsuccessful attempts. However, I am not suggesting that there was any single or dominant model of an attentive observer. Attention was not part of a particular regime of power but rather part of a space in which new conditions of subjectivity were articulated, and thus a space in which effects of power operated and circulated. That is to say, new constructions of attentiveness occurred amid larger refigurations of subjectivity in the nineteenth century, and, as we have learned from studies of madness and sexuality in the same period, it was always a question of shifting relations between discursive/institutional power on one hand and a composite of forces that inherently resisted stabilization and control on the other.

Since the study of attention in this period attempted, as I will show, to rationalize what it ultimately revealed to be unrationalizable, the questions it asked are finally more important than its empirical conclusions. Some of the most pervasive of these questions were the following: How did attention screen out some sensations and not others? What determined how attention operated as a narrowing and focusing of conscious awareness? What forces or conditions caused an individual to attend to some limited aspects of an external world and not others? How many events or objects could one attend to simultaneously and for how long (i.e., what were its quantitative and physiological limits)? To what extent was attention an automatic or voluntary act; to what extent did it involve motor effort or psychic energy? For most authors, attention implied some process of perceptual or mental organization in which a limited number of objects or stimuli are isolated from a larger background of possible attractions. John Dewey provides an exemplary account, using optical figures, in his 1886 textbook: “In attention we focus the mind, as the lens takes all the light coming to it, and instead of allowing it to distribute itself evenly concentrates it in a point of great light and heat. So the mind, instead of diffusing consciousness over all the elements presented to it, brings it all to bear upon some one selected point, which stands out with unusual brilliancy and distinctness.”<sup>31</sup> But however it was described—organization, selection, isolation—attention implied an inevitable fragmentation of a visual field in which the unified and homogeneous coherence of classical models of vision was impossible. The camera obscura model of vision in the eighteenth century described an ideal relation of self-presence between observer and world. Attention as a process of selection necessarily meant that perception was an activity of *exclusion*, of rendering

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31. Dewey, *Psychology*, p. 134.

parts of a perceptual field unperceived.<sup>32</sup> The cultural and philosophical implications of this reconceptualization in turn raised a larger set of problems and produced a range of positions, which I will group into three loose categories. There were those who posed attention as an expression of the conscious will of an autonomous subject for whom the very activity of attention, as choice, was part of that subject's self-constituting freedom. There were those who believed that attention was primarily a function of biologically determined instincts, unconscious drives, a remnant, as Freud and others believed, of our archaic evolutionary heritage, which inexorably shaped our lived relation to an environment.<sup>33</sup> And there were those who believed that an attentive subject could be produced and managed through the knowledge and control of external procedures of stimulation as well as a wide-ranging technology of "attraction."<sup>34</sup>

For attention is not just one of the many topics examined experimentally by late nineteenth-century psychology but is the fundamental condition of its knowledge.<sup>35</sup> Most areas of research—reaction times, sensory and perceptual sensitivity, mental chronometry, reflex action, conditioned responses—all presupposed a

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32. Hegel's understanding of attention as "the beginning of education," as one of the means by which we obtain "knowledge of subject matter," is clearly part of an older set of models. However, his intuition of the division and loss of subjectivity in attention sets up the terms of a distinctly modern conceptualization, which turns on the problem of selectivity and exclusion: "But it does not follow that attention is an easy matter. On the contrary, it demands an effort since a man, if he wants to apprehend one particular object, must make abstraction from everything else, from all the thousand and one things going round in his head, from his other interests, even from his own person; he must suppress his own conceit which would rashly judge the subject-matter before it had a chance to speak for itself, must stubbornly absorb himself in the subject-matter, must fix his attention on it and let it have *its* say without obtruding his own reflections. Attention contains, therefore, the negation of one's self-assertion and also the surrender of oneself to the matter in hand." *Hegel's Philosophy of Mind*, trans. William Wallace and A. V. Miller (Oxford: Oxford University Press, 1971), pp. 195–196.

33. Freud, *Origins of Psycho-analysis*, p. 417.

34. The work of Tom Gunning has been important for demonstrating that one of the formative components of a modernized mass visual culture in the West, as it took shape in the late 1880s and 1890s, was a technology of "attraction." Discussing early cinema, Gunning demonstrates that what was at stake was not primarily representation, imitation, narration, or the updating of theatrical forms. Rather it was a strategy of engaging an attentive spectator: "From comedians smirking at the camera, to the constant bowing and gesturing of conjurors in magic films, this is a cinema that displays its visibility, willing to rupture a self-enclosed fictional world for a chance to solicit the attention of the spectator." Gunning, "The Cinema of Attractions: Early Film, Its Spectator, and the Avant-Garde," in Thomas Elsaesser, ed., *Early Cinema: Space, Frame, Narrative* (London: BFI, 1990), p. 57.

35. On the particular status of psychology in the nineteenth century and its special relation to philosophy see Katherine Arens, *Structures of Knowing: Psychologies of the Nineteenth Century* (Dordrecht: Kluwer, 1989); Elmar Holenstein, "Die Psychologie als eine Tochter von Philosophie und Physiologie," in Ernst Florey and Olaf Breidbach, eds., *Das Gehirn, Organ der Seele? Zur Ideengeschichte der Neurobiologie* (Berlin: Akademie Verlag, 1993), pp. 289–308; David E. Leary, "The Philosophical Development of the Conception of Psychology in Germany," *Journal of the History of the Behavioral Sciences* 14 (1978), pp. 113–121.

subject whose attentiveness was the site of observation, classification, and measurement, and thus the point around which knowledge of many kinds was accumulated. Fechner's attempts in the 1850s to quantify subjective experience by measuring external stimulation is one of the early instances of this emerging model of attention. Fechner's famous unit of measurement, "a just noticeable difference" (or JND), was possible only through an experimental practice in which a test subject was required to be attentive to various magnitudes of sensory stimulation, and to judge at what level differences between stimuli were perceptible.<sup>36</sup> But, as William James and others realized, Fechner's work also implied the volatile and non-homogeneous makeup of perception in his notion of the stimulus "threshold." Even as his work opened the vast rationalizing possibilities of psychometrics, at the same time it disclosed the qualitative discontinuities that irrevocably fragmented the apparently uniform fabric of perceptual experience (such as the liminal shifts from consciousness of a sensation to unconsciousness or insensibility, or from sensation of pleasure, via an increase in pleasurable stimuli, into sensation of pain).<sup>37</sup> Even as attention is the site of quantification for Fechner, it simultaneously suggested subjective operations of repression and anesthetization, which were to be of considerable importance for Freud and others.<sup>38</sup>

The model of an attentive human observer that dominated the empirical sciences from the 1880s on was also inseparable from a radically transformed notion of what constitutes sensation for a human subject.<sup>39</sup> Within the increasingly sophisticated laboratory environment, sensation became an effect or set of effects that

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36. Fechner explicitly acknowledged the intrinsic unreliability of subjective testimony and the variability of attentiveness itself, but through what he called "the method of average error" he made the undependability of human subjects fully compatible with statistical computations based on very large amounts of data.

37. "If even the slightest stimulus were effective, we would have to feel an infinite mixture and unending variety of mild sensations of every kind at all times, since minimal stimuli of all types constantly surround us. Such is not the case. The fact that each stimulus must first reach a certain limit before it arouses a sensation assures to mankind a state undisturbed to a certain degree by external stimulation. . . . Besides the fact that we are saved from disturbances by unwanted and strange perceptions, because any stimulus escapes notice when it falls below a certain point, there is also the fact that a uniform state of perception is assured because stimulus differences cannot be noticed below their threshold." Gustav Fechner, *Elements of Psychophysics*, trans. Helmut Adler (New York: Holt, Rinehart, 1966), p. 208. See the remarks on Fechner's cultural importance in Dolf Sternberger, *Panorama of the Nineteenth Century*, trans. Joachim Neugroschel (New York: Urizen, 1977), pp. 211–212.

38. See, for example, Sigmund Freud, *Beyond the Pleasure Principle*, trans. James Strachey (New York: Norton, 1961), pp. 2–4.

39. See the rich discussion of the scientific and philosophical problems raised by late nineteenth-century models of sensation in Emile Meyerson, *Identity and Reality* (1908), trans. Kate Loewenberg (New York: Dover, 1962), pp. 291–307.

were technologically produced and were used to describe a subject who was compatible with those technical conditions. That is, its significance as an “interior” faculty disappeared and it became a quantity or set of effects that could be measured or observed externally. In particular, attention was studied in terms of response to machine-produced stimuli, often electrical in nature and abstract in content, that allowed a quantitative determination of the sensory capacities of a perceiving subject.<sup>40</sup> Within this vast project, an older model of sensation as something *belonging* to a subject became irrelevant. Sensation now had empirical significance only in terms of magnitudes that corresponded to specific quantities of energy (e.g., light) on one hand and to measurable reaction times and other forms of performative behavior on the other. It cannot be emphasized too strongly how, by the 1880s, the classical idea of sensation ceases to be a significant component in the cognitive picture of nature.<sup>41</sup>

But just as the rise of psychometry (i.e., any attempt at quantification or measurement of mental processes) in the human sciences either diminished or altered the importance of subjective sensation, another challenge to the classical notion of sensation can be seen in the work of a wide range of thinkers, in James, Nietzsche, Bergson, and Charles S. Peirce but also, as I will argue, in the work of Seurat and Cezanne. James and Bergson, in particular, explicitly challenged the notion of a pure or simple sensation, on which associationism depended. Both contended that any sensation, no matter how seemingly elemental, is always a compounding of memory, desire, will, anticipation, and immediate experience.<sup>42</sup> But at the same time their work offered little support for the idea of a “pure” or autonomous aesthetic perception. Peirce, too, argued against the idea of “immediate” sensations, asserting that they are irreducible complexes of association and interpretation.<sup>43</sup>

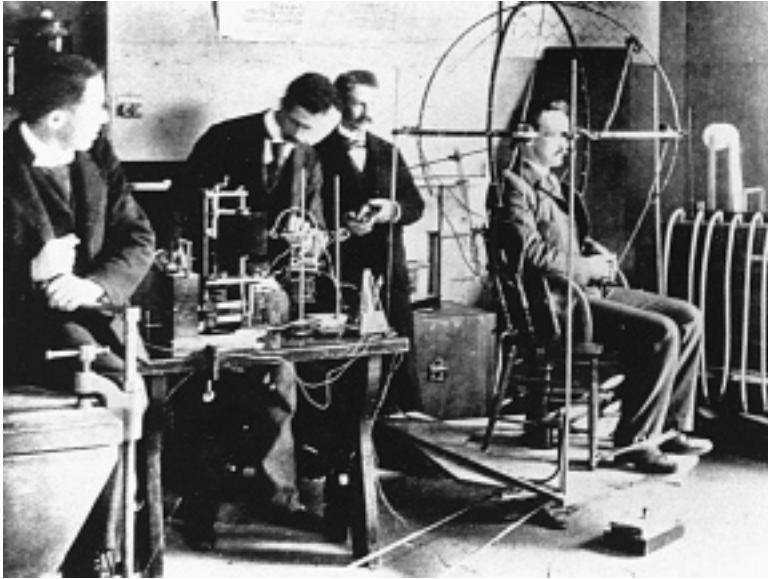
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40. On the technological transformation of physiology and psychology in the nineteenth century, see Timothy Lenoir, “Models and Instruments in the Development of Electrophysiology, 1845–1912,” *Historical Studies in the Physical and Biological Sciences* 17, pt. 1 (1986), pp. 1–54. See the suggestive remarks on the possibility of a cultural history of electricity “that would address the specific ways in which it has shaped subjectivity,” in Felicia McCarren, “The ‘Symptomatic Act’ circa 1900: Hysteria, Hypnosis, Electricity, Dance,” *Critical Inquiry* 21 (Summer 1995), p. 763.

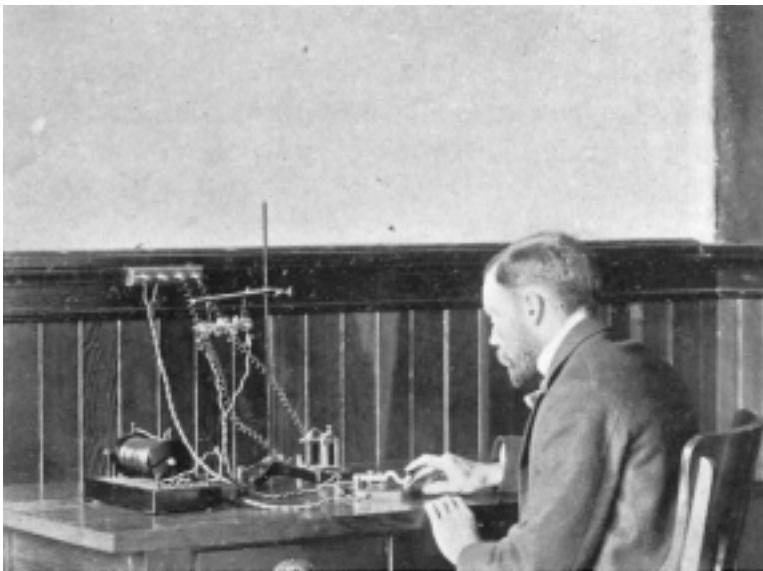
41. See the important historical problematization of “mechanical objectivity” in the nineteenth century and the related orientation of the observer “beyond the limits of the human senses” in Lorraine Daston and Peter Galison, “The Image of Objectivity,” *Representations* 40 (Fall 1992), pp. 81–128.

42. James was, however, convinced that “pure sensations” could be realized in the first days of life by an infant. *Principles of Psychology*, vol. 2, p. 7. He coined one of his most memorable phrases when he described how the “one great blooming, buzzing confusion” of the newborn baby quickly “coalesces” into a unified and homogeneous intuition of space. *Principles of Psychology*, vol. 1, p. 488.

43. Peirce, “Some Consequences of Four Incapacities,” pp. 56–62.



*Experiment on attentiveness to sound location, 1893.*



*Measurement of attention to electrical sparks, 1890s. Photograph shows conditions of experiment conducted in darkness.*

Ernst Mach continued to employ the word “sensations” but refashioned it to indicate psychic “elements” that could not provide knowledge of a “true” external world.<sup>44</sup> Important within this reorganization of perceptual experience, the contours of which I have only hinted at, was a struggle over how sensation and stimuli were interpreted, attended to, and made useful.

The problem of attention, then, was not a question of a neutral timeless activity like breathing or sleeping but of the emergence of a specific model of behavior with a historical structure—behavior that was articulated in terms of socially determined norms and was part of the formation of a modern technological milieu. Anyone familiar with the history of modern psychology knows the symbolic importance of the date 1879, the year when Wilhelm Wundt established the world’s first psychology laboratory at the University of Leipzig.<sup>45</sup> Irrespective of the specific nature of Wundt’s intellectual project, this laboratory space, with its newly codified research procedures and finely calibrated apparatuses, became the model for the whole modern social organization of psychological experimentation around the study of an observer attentive to a wide range of artificially produced stimuli.<sup>46</sup> To paraphrase Foucault, this has been one of the practical and discursive spaces within modernity in which human beings “problematize what they are.”<sup>47</sup>

This problem was elaborated within an emergent economic system that demanded attentiveness of a subject in a wide range of new productive and spectacular tasks, but whose internal movement was continually eroding the basis of any disciplinary attentiveness. Part of the cultural logic of capitalism demands that we

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44. See the discussion of Mach’s reconceptualization of scientific objectivity and parallel disintegration of the subject in Theodore Porter, “The Death of the Object: Fin-de-Siecle Philosophy of Physics,” in Ross, ed., *Modernist Impulses in the Human Sciences 1870–1930*, pp. 128–151.

45. On Wundt and the beginnings of the psychology laboratory see Kurt Danziger, *Constructing the Subject: Historical Origins of Psychological Research* (Cambridge: Cambridge University Press, 1990), pp. 17–33. See also Didier Deleule, “The Living Machine: Psychology as Organology,” in Jonathan Crary and Sanford Kwinter, eds., *Incorporations* (New York: Zone Books, 1992), pp. 203–233. Occasionally, the priority of Wundt’s laboratory is challenged in favor of the “laboratory” assembled by William James in Laurence Hall at Harvard in 1875, where he performed demonstrations for his students but did not then conduct or initiate any sustained experimental research program.

46. Studies on attention, like almost all important work within experimental psychology in the late nineteenth century, obviously involved human test subjects with specific demographic and sociological features such as age, gender, social class. It is well known, for example, that in the first ten years of the operation of Wundt’s Leipzig laboratory his subjects were almost exclusively his own male students. Much the same was true of James McKeen Cattell’s work at Columbia University in the 1890s. See the valuable discussion in Kurt Danziger, “A Question of Identity: Who Participated in Psychological Experiments,” in Jill G. Morawski, ed., *The Rise of Experimentation in American Psychology* (New Haven: Yale University Press, 1988), pp. 35–52.

47. Michel Foucault, *The Use of Pleasure*, trans. Robert Hurley (New York: Random House, 1985), p. 10.

accept as *natural* switching our attention rapidly from one thing to another.<sup>48</sup> Capital, as accelerated exchange and circulation, necessarily produced this kind of human perceptual adaptability and became a regime of reciprocal attentiveness and distraction. Helmholtz's account of subjective vision in his *Physiological Optics* established the truth of an observer in terms of an innate compatibility with this organization of experience: "It is natural for the attention to be distracted from one thing to another. As soon as the interest in one object has been exhausted, and there is no longer anything new in it to be perceived, it is transferred to something else, even against our will. When we wish to rivet it on an object, we must constantly seek to find something novel about it, and this is especially true when other powerful impressions of the senses are tugging at it and trying to distract it."<sup>49</sup> Unlike in any previous order of visibility, mobility, novelty, and distraction became identified as constituent elements of perceptual experience.<sup>50</sup> Even some of the most avid defenders of technological progress acknowledged that subjective adaptation to new perceptual speeds and sensory overload would not be without difficulties. Nordau predicted that "the end of the twentieth century, therefore, will probably see a generation to whom it will not be injurious to read a dozen square yards of newspapers daily, to be constantly called to the telephone, to be thinking simultaneously of the five continents of the world, to live half their time in a railway carriage or in a flying machine and . . . know how to find its ease in the midst of a city inhabited by millions."<sup>51</sup> What he and others failed to grasp then was that modernization was not a one-time set of changes but an ongoing and perpetually modulating process that would never pause for individual subjectivity to accommodate and "catch up" with it.

Obviously, as I've suggested, in the late nineteenth century attention became a problem alongside the specific systemic organization of labor and production by industrial capitalism. But even as the global functioning of capitalism has mutated

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48. See the related discussion in Fredric Jameson and Anders Stephanson, "Regarding Postmodernism: A Conversation with Fredric Jameson," in Douglas Kellner, ed., *Postmodernism, Jameson, Critique* (Washington, D.C.: Maisonneuve Press, 1989), pp. 43–74, esp. p. 46.

49. Hermann von Helmholtz, *Treatise on Physiological Optics*, vol. 3, ed. James P. C. Southall (New York: Dover, 1962), p. 498.

50. Photography, whose development coincides historically with the acceleration of nineteenth-century capitalism, was intertwined with the emergence of new rhythms of attentive receptiveness. For example, Victor Burgin, insisting on the fundamental difference between how photographs and painting are observed, discusses "the awkwardness which accompanies the over-long contemplation of a photograph" in his "Looking at Photographs," in Victor Burgin, ed., *Thinking Photography* (London: Macmillan, 1982), pp. 142–153.

51. Nordau, *Degeneration*, p. 541.

in the course of the twentieth century into postindustrial and information/communication-based phases, attention as a subjective and social problem retains some enduring features. To make this more concrete, consider one of the places where an influential model of an attentive subject was constructed, and where some elements of a modern system of perceptual transformation and adaptability were formulated: the work of Thomas Edison. Edison is a prominent sign of the transition to centralized corporate capitalism in the late nineteenth century (even though some aspects of his enterprise retained preindustrial practices and others pointed toward features of an information/communications-based economy). It is within this shift that we can locate his move away from earlier nineteenth-century techniques of display, exhibition, and consumption to paradigms that would become dominant in the twentieth century. Edison's importance lies not with any particular device or invention but rather in his role in the emergence, beginning in the 1870s, of a new system of quantification and distribution.<sup>52</sup> Raymond Williams locates the origins of this system later, in radio and television, but his analysis is applicable to much of Edison's production: a system "primarily designed for transmission and reception as abstract processes, with little or no definition of preceding content."<sup>53</sup> For Edison, cinema, for example, had no significance in itself—it was simply one of a potentially endless stream of ways in which a space of consumption and circulation could be dynamized, activated.<sup>54</sup> Edison saw the marketplace in terms of how images, sounds, energy, or information could be reshaped into measurable and distributable commodities and how a social field of individual subjects could be arranged into increasingly separate and specialized units of consumption.<sup>55</sup> The logic that supported the Kinetoscope and the

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52. See the important discussion of Edison in Thomas P. Hughes, *Networks of Power: Electrification in Western Society 1880–1930* (Baltimore: Johns Hopkins University Press, 1983), 18–78. "Edison was a holistic conceptualizer and determined solver of the problems associated with the growth of systems" (p. 18).

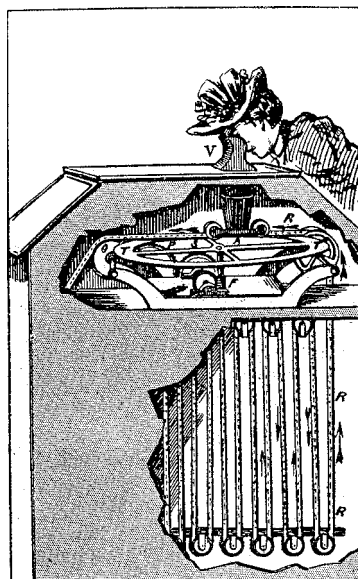
53. Raymond Williams, *Television: Technology and Cultural Form* (New York: Schocken, 1975), p. 25.

54. For a valuable genealogical account in which the prehistory of cinema and television overlap beginning in the 1850s, see Siegfried Zielinski, *Audiovisionen: Kino und Fernsehen als Zwischenspiele in der Geschichte* (Reinbek bei Hamburg: Rowohlt, 1989), pp. 19–93.

55. Other pivotal nineteenth-century figures should be mentioned here. Werner von Siemens certainly precedes Edison as the conceptualizer of a new economic and social space based on the quantification and distribution of energy. Also relevant is Lord Kelvin, who was a central participant in the globalization of telegraphic communication and subsequently in the commodification and marketing of electric power in England. See Crosbie Smith and M. Norton Wise, *Energy and Empire: A Biographical Study of Lord Kelvin* (Cambridge: Cambridge University Press, 1989), 649–722. The uniqueness of Edison's enterprise, however, is the way in which the components of an emerging mass culture (film, photography, recorded sound) were understood as part of the same abstract territory on which units of energy indifferently circulated.



*Edison's stock ticker apparatus, 1869.*



*Edison's Kinetoscope, 1893.  
Cutaway view showing 45-foot  
loop of film and display  
mechanism.*

phonograph—that is, the structuring of perceptual experience in terms of a solitary rather than a collective subject—is replayed today in the increasing centrality of the computer screen as the primary vehicle for the distribution and consumption of electronic entertainment commodities.

At the same time, Edison's early understanding of the economic relation between hardware and software (the machines to make movies, the machines with which to view movies, and the movies themselves) coincided with emerging (and enduring) patterns of vertical integration of these spheres of production within a single corporation.<sup>56</sup> Edison's first technological product, a hybrid telegraph-stock ticker in the early 1870s, is paradigmatic for what it foreshadows in subsequent technological arrangements, including those of the late twentieth century: the in-

56. Edison's work is discussed in terms of both its origins in preindustrial machine-shop craft practices and its central position within a "second industrial revolution" lasting from the 1870s to World War I, in Andre Millard, *Edison and the Business of Invention* (Baltimore: Johns Hopkins University Press, 1990). On the historical emergence of models of vertical integration in the 1880s, see Giovanni Arrighi, *The Long Twentieth Century: Money, Power and the Origins of Our Times* (New York: Verso, 1994), pp. 285–289.

distinction between information and visual images, and the making of quantifiable and abstract flow into the object of attentive consumption.<sup>57</sup> Edison's grasp of some of the systemic features of capitalism as it evolved in the 1880s and 1890s underscores the abstract nature of the products he "invented"; his work was inseparable from the continual manufacture of new needs and the consequent restructuring of the network of relations in which such products would be consumed.<sup>58</sup> Recent corporate innovators Stephen Jobs, Bill Gates, and Andrew Grove are later participants in this same historical project of perpetual rationalization and modernization. In the late twentieth century as in the late nineteenth, the management of attention depends on the capacity of an observer to adjust to continual reappearings of the ways in which a sensory world can be consumed. Throughout changing modes of production, attention has continued to be a disciplinary immobilization as well as an accommodation of the subject to change and novelty—as long as the consumption of novelty is subsumed within repetitive forms.

Since the late 1800s, the problem of attention has remained more or less within the center of institutional empirical research and at the heart of the functioning of a capitalist consumer economy.<sup>59</sup> It could be argued rather strictly that during the hegemony of behaviorism, beginning in the early twentieth century and

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57. Neil Postman singles out the earlier invention of the telegraph in the 1840s as a precedent for these developments in its creation of "a world of anonymous, decontextualized information. The telegraph also moved history into the background and amplified the instant and simultaneous present." That the emergence of this perpetual "present" entailed a reorganization of the perceiving subject along the lines of my argument is symbolically signaled by what some authorities insist was Samuel F. B. Morse's actual first transmission: "Attention Universe." See Neil Postman, *The Disappearance of Childhood* (New York: Delacorte Press, 1982), pp. 68–72.

58. For a more extended discussion of this legacy of Edison's work in the twentieth century, see my "Dr. Mabuse and Mr. Edison," in Kerry Brougher, ed., *Art and Film since 1945: Hall of Mirrors* (New York: Monacelli Press, 1996), pp. 262–279. For a few recent detailed accounts of the practical subjective adaptation necessitated by accelerated technological innovation, see Edward Tenner, *Why Things Bite Back: Technology and the Revenge of Unintended Consequences* (New York: Knopf, 1996), pp. 161–209; Gene I. Rochlin, *Trapped in the Net: The Unanticipated Consequences of Computerization* (Princeton: Princeton University Press, 1997), pp. 29–32; and David Shenk, *Data Smog: Surviving the Information Glut* (New York: Harper Collins, 1997), pp. 35–50.

59. Throughout the twentieth century various positions in philosophy and psychology have rejected it as a relevant or even meaningful problem. See, for example, the devaluation of attention as a problem in Maurice Merleau-Ponty, *The Phenomenology of Perception*, trans. Colin Smith (New York: Routledge, 1962), pp. 26–31. Many studies since the mid-twentieth century have worked with notions of cognitive processing and channel capacity borrowed from information theory. One influential midcentury account of attention was Donald Broadbent's "filter theory" in his *Perception and Communication* (New York: Pergamon, 1958). For a survey of recent work, see Harold E. Pashler, *The Psychology of Attention* (Cambridge: MIT Press, 1998), and the research positions represented in Raja Parasuraman and D. R. Davies, eds., *Varieties of Attention* (Orlando: Academic Press, 1984). See also Julian Hochberg, "Attention, Organization and Consciousness," in D. I. Mostofsky, ed., *Attention: Contemporary Theory and Analysis* (New York: Appleton Century Crofts, 1970); Alan Allport, "Visual Attention," in Michael Posner, ed., *Foundations of Cognitive Science* (Cambridge: MIT Press, 1989), pp. 631–682; A. H. C. Van der

especially in the 1920s and 1930s, attention, along with the idea of a “mental process,” was proscribed or marginalized as an explicit object of research. But in fact, regardless of terminological polemics, the entire regime of stimulus-response research was founded on the attentive capacities of a human (or even animal) subject. It has been argued that problems related to the efficient human use of new technology during World War II were in part responsible for a new wave of research into attention: there were issues of “vigilance” in, for example, the continuous scanning of radar screens by human operators.<sup>60</sup> During the last few decades, within the context of a dramatically transformed space of knowledge and neurological research, it is not uncommon to encounter claims, such as those of Popper and Eccles, that the unitary character of the self-conscious mind is inseparable from attention.<sup>61</sup> More recently, neurologist Antonio Damasio has maintained that “without basic attention and working memory there is no prospect of coherent mental activity.”<sup>62</sup> Much contemporary study is founded on the assumption that attention is not simply a psychological issue but that its operation can be demonstrated on the neuronal level, while others believe it will always be a more elusive phenomenon.<sup>63</sup> Whatever the relative merits of various theories, attention has

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Heijden, *Selective Attention in Vision* (London: Routledge, 1992); Gerald Edelman, *Bright Air, Brilliant Fire: On the Matter of Mind* (New York: Basic Books, 1992), pp. 137–144; Stephen M. Kosslyn, *Image and Brain: The Resolution of the Imagery Debate* (Cambridge: MIT Press, 1994), pp. 87–104; and Patricia Smith Churchland, *Neurophilosophy: Toward a Unified Science of the Mind-Brain* (Cambridge: MIT Press, 1986), pp. 474–478. A range of sociological and anthropological approaches is collected in Michael A. Chance and Roy R. Larsen, eds., *The Social Structure of Attention* (London: John Wiley and Sons, 1976).

60. See L. S. Hearnshaw, *The Shaping of Modern Psychology* (London: Routledge, 1987), pp. 206–209: “The term ‘vigilance’ was first employed by the neurologist Henry Head to describe the state of the nervous system conducive to speedy and adequate responses. It was adopted by Mackworth, the Cambridge psychologist, in his wartime studies of visual and auditory monitoring, and defined by him as ‘a state of readiness to detect and respond to certain specified small changes occurring at random time intervals in the environment.’”

61. Karl R. Popper and John C. Eccles, *The Self and Its Brain* (New York: Springer, 1977), pp. 361–362. The authors discuss how the selective activity of attention gives “unity to the most transient experiences.” They propose that the experienced coherence and “gestalt character” of consciousness comes, not from a neurophysiological synthesis, but from the integrating character of the self-conscious mind.

62. Antonio R. Damasio, *Descartes’ Error: Emotion, Reason and the Human Brain* (New York: Putnam, 1994), p. 197.

63. See, for example, Michael I. Posner and Stanislas Dehaene, “Attentional Networks,” *Trends in Neurosciences* 17, no. 2 (1994), p. 75: “The study of attention has been an important area of research since the inception of psychology in the late 1800s. However, it has remained controversial whether there are any separate brain mechanisms that subserves attention. Attention does not give rise to a unique qualitative experience like vision or touch, nor does it automatically produce motor responses. While we appear to be able to select sensory stimuli, information in memory, or motor responses, this might not indicate a separate attention system, since all brain systems play a role in selection.”

proven to be a remarkably persistent problem within the generalized disciplinary context of the social and behavioral sciences.<sup>64</sup>

Over the last few years we have been reminded of the durability of attention as a normative category of institutional power, in the form of the dubious classification of an “attention deficit disorder” (or ADD) as a label for unmanageable schoolchildren and others. Without entering into the larger issue of the social construction of illness, what stands out is how attention continues to be posed as a normative and implicitly natural function whose impairment produces a range of symptoms and behaviors that variously disrupt social cohesion.<sup>65</sup> One recent study on ADD declares, “What is deficient is the control exerted over behavior by rules,” making explicit that the real concern is with rule-governed conduct.<sup>66</sup> As one reads the literature on ADD, one regularly reencounters some of the exact language and evaluations of Ribot and Nordau in the 1890s, especially in the enumeration of symptoms.<sup>67</sup> Thus, children with ADD are ones who “will not concentrate, won’t listen, refuse to pay attention, and won’t follow rules. . . . They can’t sit still, talk excessively and out of turn, fidget and throw non-sequiturs into conversation.”<sup>68</sup> Of course, one distinction that separates contemporary discussions from those of

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64. A different approach to the problem of attention, remote from the historical concerns of this book, can be found in some areas of twentieth-century analytic philosophy, where distinctions are made between various concepts such as “noticing,” “interest,” “awareness,” and “mindfulness.” See, for example, the discussion of “heed concepts” in Gilbert Ryle, *The Concept of Mind* (London: Hutchinson, 1949), pp. 135–144. For Ryle, “heed” refers to “the concepts of noticing, taking care, attending, applying one’s mind, concentrating, putting one’s heart into something, thinking what one is doing, alertness, interest, intentness, studying and trying.” See also the general overview in A. R. White, *Attention* (Oxford: Blackwell, 1964).

65. By the late 1870s inattentiveness had been widely associated with a range of sociopathic forms of behavior, for example in Cesare Lombroso, *L’homme criminel: Etude anthropologique et medico-legale* (1876, Italian), trans. G. Regnier and A. Bournet (Paris; F. Alcan, 1887), pp. 424–426. One of the first comprehensive sociological accounts of attention is Theodule Ribot’s *Psychologie de l’attention* (1889) in which determinations of race, gender, nationality, and class were central to his evaluations. For Ribot, those characterized by deficient capacity for attention include “children, prostitutes, savages, vagabonds and South Americans.” This book was one of the sources for Max Nordau’s reflections on attention in *Degeneration* (1892). However, there were influential claims that attentive capacities were unrelated to gender, for example the widely cited work by the Viennese clinician Heinrich Obersteiner, “Experimental Researches on Attention,” *Brain* 1 (January 1879), pp. 439–453: “As regards sex, it may be stated that there does not appear to be any direct relation, in and by itself, between this and the degree or power of attention.”

66. R. Barkley, “Do as We Say, Not as We Do: The Problem of Stimulus Control and Rule-Governed Behavior in Attention Deficit Disorder with Hyperactivity,” in Lewis M. Bloomingdale and J. M. Swanson, eds., *Attention Deficit Disorder: New Directions in Attentional and Conduct Disorders* (New York: Elsevier, 1990), p. 24.

67. See, for example Carpenter’s case study of Coleridge’s “congenital weakness of the voluntary attention” in *Principles of Mental Physiology*, pp. 266–269.

68. Claudia Wallis, “Life in Overdrive,” *Time*, July 18, 1994, p. 49.

a century ago is the insistence that ADD is not linked to any weakness of the will, that there is no personal responsibility involved. Even after admitting that there is absolutely no experimental or empirical confirmation of an ADD diagnosis, the authors of a best-selling book on the subject make the claim: "Remember that what you have is a neurological condition. It is genetically transmitted. It is caused by biology, by how your brain is wired. It is *not* a disease of the will, nor a moral failing, nor some kind of neurosis. It is not caused by a weakness in character, or by a failing to mature. Its cure is not to be found in the power of the will, nor in punishment, nor in sacrifice, nor in pain. Always remember this. Try as they might, many people with ADD have great trouble accepting the syndrome as being rooted in biology rather than in weakness of character."<sup>69</sup> Other more prudent researchers admit the difficulty of establishing any consistent screening criteria for the condition, referring to it as a "rather elusive childhood disorder."<sup>70</sup>

We learn from "experts" of our own time that this condition is characterized by "impulsiveness, short attention span, low frustration tolerance, distractibility, aggressiveness and in varying degrees, hyperactivity."<sup>71</sup> The diagnosis of ADD in adults is increasingly linked to feelings of underachievement, in such a way that any sort of economic shortcoming or social insecurity is now understandable in terms of a failure to apply oneself attentively to the ideologically determined standards of performance and "achievement."<sup>72</sup> In a culture that is so relentlessly founded on a short attention span, on the logic of the nonsequitur, on perceptual overload, on the generalized ethic of "getting ahead," and on the celebration of aggressiveness, it is nonsensical to pathologize these forms of behavior or look for the causes of this imaginary disorder in neurochemistry, brain anatomy, and genetic predisposition. Of course there are some ADD researchers who understand how the individual is caught between the subjective dislocations of modernization and imperatives for institutional discipline and productivity. That is, the behavior categorized as ADD is merely one of many manifestations resulting from this cul-

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69. Edward M. Hallowell and John J. Ratey, *Driven to Distraction* (New York: Pantheon, 1994), p. 247.

70. Edward A. Kirby and Liam K. Grimley, *Understanding and Treating Attention Deficit Disorder* (New York: Elsevier, 1986), p. 5.

71. Melinda Blau, "A.D.D.: The Scariest Letters in the Alphabet," *New York Magazine*, December 13, 1993, pp. 45–51.

72. See, for example, Kevin R. Murphy and Suzanne Levert, *Out of the Fog: Treatment Options and Coping for Adult Attention Deficit Disorder* (New York: Hyperion, 1995), in which symptoms of ADD include poor management, communication, and organizational skills in the workplace. See the excellent cultural overview of ADD in Lawrence H. Diller, "Running on Ritalin," *Double Take* 14 (Fall 1998), pp. 46–55.

tural double bind, from the contradictory modes of performance and cognition that are continually demanded or incited. One writer quizzically notes this paradox: “Many, if not most, hyperactive children are apparently able to sustain attention for a substantial period of time in high interest situations, such as watching television shows or playing video games.”<sup>73</sup>

Clearly, many of the systemic measures in place now for the efficient management of attention are working imperfectly at best. Many of the modes of fixation, of sedentarization, of enforced attentiveness implicit in the diffusion of the personal computer may have achieved some of its disciplinary goals, in the production of what Foucault calls docile bodies. The proliferation of electronic and communication products insures that docility will always be linked with intensified patterns of consumption, but the forms of social disintegration that have accompanied this new regime have generated behaviors (e.g., children who will not learn) that have become systemically intolerable. And, as the institutional discourse on attention indicates, we are now seeing the dramatic expansion of another layer of disciplinary technology—the sweeping use of potent neurochemicals as a strategy of behavior management. At the same time, the modern cultural problem of attentiveness has, as one of its outer limits, the volatile and uncertain phenomenon of schizophrenia.<sup>74</sup> One dominant model of schizophrenic experience for much of the twentieth century has been that of a perceiving subject with a reduced or damaged capacity for selective attentiveness. That is, the schizophrenic is attentive to an overwhelming field of perceptual data, in a sense incarnating in extreme form

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73. W. E. Pelham, “Attention Deficits in Hyperactive and Learning Disabled Children,” *Exceptional Education Quarterly* 2, no. 3 (1981), p. 20.

74. The cultural and social disruptions inherent in schizophrenia have been outlined thus: “By the process of attention we thus break down and effectively categorize both the information reaching us from the environment, and that which is internally available in the form of stored past experience. By such processes we reduce, organize and interpret the otherwise chaotic flow of information reaching consciousness to a limited number of differentiated, stable and meaningful percepts from which reality is constructed. . . . Now let us suppose there is a breakdown in this selective-inhibitory function of attention. Consciousness would be flooded with an undifferentiated mass of incoming sensory data, transmitted from the environment via the sense organs. To this involuntary tide of impressions there would be added the diverse internal images, and their associations, which would no longer be coordinated with incoming information. Perception would revert to the passive and involuntary assimilative process of early childhood and, if the incoming flood were to carry on unchecked, it would gradually sweep away the stable constructs of a former reality.” Andrew McGhie and James Chapman, “Disorders of Attention and Perception in Early Schizophrenia,” *British Journal of Medical Psychology* 34 (1961), pp. 110–111. Recent studies, though, have questioned the usefulness of the concept of a monolithic attentional impairment in schizophrenia and asserted that unitary models of attention have limited explanatory value. See, for example, J. T. Kenny and H. Meltzer, “Attention and Higher Cortical Functions in Schizophrenia,” *Journal of Neurophysiological and Clinical Neurosciences* 3 (1991), pp. 269–275.

the modern paradigm of sensory overload. The Swiss psychiatrist Eugen Bleuler, credited with introducing the term schizophrenia, observed a profound disturbance of the inhibiting properties of attention: “The selectivity which normal attention ordinarily exercises among the sensory impressions can be reduced to zero so that almost everything is recorded that reaches the senses.”<sup>75</sup>

The thematic of inhibition has been an integral part of many influential theories of attention, for example in the work of Wundt, which exemplifies the replacement of Kant’s transcendental unity of apperception with merely psychological processes of synthesis and integration. Selective attention, for Wundt, was the single most important psychic category because of its essential (but not a priori) role in producing an effective unity of consciousness and perception. His postulation of an attention center located in the frontal cerebral lobes was particularly influential.<sup>76</sup> Suffused with many of the social assumptions of evolutionary thought in the 1870s and 1880s, his account defined attention as one of the highest integrating functions (distinct from the automatic functions of the lower brain and spinal column) within an organism whose makeup was emphatically hierarchical.<sup>77</sup> More significantly, Wundt’s model of attention, which he effectively equated with will, was founded on the idea that various sensory, motor, and mental processes were necessarily *inhibited* in order to achieve the restricted clarity and focus that characterized attention.<sup>78</sup> It was a powerful formulation to be found in many variations throughout the 1880s and 1890s.

The idea of inhibition and anesthesia as constitutive parts of perception is an indication of a dramatic reordering of visibility, implying the new importance of

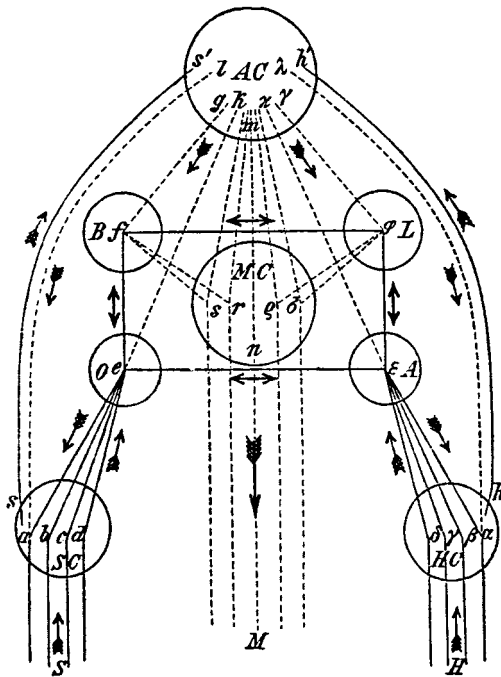
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75. Eugen Bleuler, *Dementia Praecox, or the Group of Schizophrenias* (1911), trans. Joseph Zinkin (New York: International Universities Press, 1950), p. 68. Jan Goldstein has shown that the link between insanity and a malfunction of attentiveness goes back at least to the work of J. E. D. Esquirol around 1816, in her *Console and Classify: The French Psychiatric Profession in the Nineteenth Century* (Cambridge: Cambridge University Press, 1987), pp. 246–247.

76. Wundt, *Grundzüge der physiologischen Psychologie*, vol. 3 (1874; 6th ed. Leipzig: Engelmann, 1908), pp. 306–364; in English as *Principles of Physiological Psychology*, trans. Edward Bradford Titchener (New York: Macmillan, 1904).

77. The groundbreaking neurological work of John Hughlings Jackson was a parallel articulation of this hierarchical model, in which different functions were associated with specific areas of the nervous system: Jackson distinguished so-called “higher” functions like voluntary attentiveness from more automatic and “lower” forms of motor behavior.

78. For a detailed overview of this problem in the nineteenth century, see Roger Smith, *Inhibition: History and Meaning in the Sciences of Mind and Brain* (Berkeley: University of California Press, 1992). But the relation between attention and inhibition is also articulated in many places fully independently of neurological or physiological ideas. See, for example, F. H. Bradley, “On Active Attention,” *Mind*, n.s. 11 (1902), p. 5: “Attention will thus consist in the suppression of any psychical fact which would interfere with the object, and its essence therefore is not positive at all, but merely negative.”



Wundt's schematic diagram of the brain, with attention center at top, 1880.

models based on an economy of forces rather than an optics of representation. Freud's formulations on the relation between perception and repression (from the "Project" in 1895 to the essay on psychogenic visual disturbances in 1910) are only the more widely known products to come out of speculation and research by others in the 1870s and 1880s.<sup>79</sup> Charles Fere and Alfred Binet described "the simple fact of attention" as "a concentration of the whole mind on a single point, resulting in the intensification of the perception of this point and producing all around it a zone of anesthesia; attention increases the force of certain sensations while it weakens others."<sup>80</sup> They specified the "negative effects of attention." Janet described how attention "suppressed" the contents of consciousness and produced a shrinkage of the visual field.<sup>81</sup> These are indications of the irrelevance of the camera obscura model of vision, in which an ideal observer had the capacity to

79. See Anne Harrington, *Medicine, Mind, and the Double Brain: A Study in Nineteenth Century Thought* (Princeton: Princeton University Press, 1987), pp. 235–247.

80. Alfred Binet and Charles Fere, *Le magnetisme animal* (Paris: Felix Alcan, 1888), p. 239.

81. Pierre Janet, "L'attention," in Charles Richet, ed., *Dictionnaire de physiologie*, vol. 1 (Paris: F. Alcan, 1895), p. 836.

apprehend instantaneously the unedited contents of a visual field. Thus, a normative observer in the late nineteenth century began to be conceptualized not only in terms of the isolated objects of attention, but equally in terms of what is not perceived, or only dimly perceived, of the distractions, the fringes and peripheries that are excluded or shut out of a perceptual field. As I will detail in chapter four, part of this new disjunct model of vision was linked to the physiological discovery of the nonhomogeneous nature of the eye itself, with its small area of foveal clarity within a much larger field of peripheral indistinctness. However, it was the *metaphorical* and not the empirical impact of this model that became important for modern refigurations of the observer.

It should be emphasized that the themes of inhibition, exclusion, and periphery did not necessarily support a Freudian model of an unconscious actively denying certain contents to attentive awareness. Jonathan Miller has argued recently that an alternative European tradition in the nineteenth century posed the unconscious as part of a system in which *automatic* behavior was reciprocally intertwined with the changing needs of conscious activity, including attention. In contrast to the “custodial” Freudian interpretation, many nineteenth-century psychologists saw the unconscious as “actively generating the processes which are integral to memory, perception, and behavior. Its contents are inaccessible not, as in psychoanalytic theory, because they are held in strenuously preventive detention but, more interestingly, because the effective implementation of cognition and conduct does not actually *require* comprehensive awareness. On the contrary, if consciousness is to implement the psychological tasks for which it is best fitted, it is expedient to assign a large proportion of psychic activity to automatic control; if the situation calls for a high level management decision, the unconscious will freely deliver the necessary information to awareness.”<sup>82</sup> Helmholtz, for example, proposed a quasi-utilitarian functioning of the mind in which sensory information that is unlikely to be useful or necessary is involuntarily unattended to. To become aware of such information (like the blind spot in our visual field) requires a special effort at reorienting one’s attention.

Darwin established a pervasive belief in the importance of attention in human evolution, identifying it as a survival mechanism: “Hardly any faculty is more important for the intellectual progress of man than the power of attention. Animals

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82. Jonathan Miller, “Going Unconscious,” *New York Review of Books*, April 20, 1995, p. 64. Miller discusses the work of Sir William Hamilton, W. Benjamin Carpenter, and Thomas Laycock (the teacher of J. H. Jackson).

clearly manifest this power, as when a cat watches a hole and prepares to spring on its prey. Wild animals sometimes become so absorbed when thus engaged, that they may be easily approached.”<sup>83</sup> A certain kind of reactive attention was believed to be an essential part of human biology. This was what triggered a systemic response to novel stimuli, whether visual, olfactory, or auditory, in which the organism was instantly able to shut down (or inhibit) ongoing motor activity while focusing mental effort exclusively on the relevant stimuli, usually those related to potential predators or prey. Parallel to Wundt’s work in the 1870s were the neurological researches of the Scottish physician Sir David Ferrier, who championed the idea of localization of brain function. Ferrier developed the hypothesis of inhibitory centers in specific parts of the brain, which were effectively the physiological basis of will and attention. He demonstrated how attention and volition depended on the physiological *suppression* of movement, that is, paradoxically, how certain forms of sensorimotor activity inhibited other motor activity.<sup>84</sup> Thus an attentive observer might appear motionless, in a state of frozen immobility, but was in fact the site of a ferment of physiological (and motor) occurrences, upon which that relative “stasis” depended.<sup>85</sup> This state of heightened alertness and of intense focus on a restricted area of a sensory field could be understood in many ways. For example, it could be transposed from the animal realm of sheer survival into a biological adaptation of the organism to disciplined and productive labor within a social realm. But attention, as a shutting out, a powerful filter, could also be seen as a model of a Nietzschean forgetting, an essential precondition not merely for subsistence but for affirmation of the self through *action*.<sup>86</sup> Attention here has less

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83. Charles Darwin, *The Descent of Man, and Selection in Relation to Sex* (1871; Princeton: Princeton University Press, 1981), p. 44. Angelo Mosso, for example, begins his chapter on attention by citing Darwin, in his *Fatigue*, p. 177. On the epistemological impact of Darwin’s work, see Robert J. Richards, *Darwin and the Emergence of Evolutionary Theories of Mind and Behavior* (Chicago: University of Chicago Press, 1987), pp. 275–294.

84. See David Ferrier, *The Functions of the Brain* (1876; New York: G. P. Putnam, 1886), pp. 463–468. See also the valuable discussion of Ferrier in Smith, *Inhibition*, pp. 116–121.

85. See, for example, Maudsley, *The Physiology of Mind*, pp. 313–315: “But it may be asked, how can motor innervation be a factor in the operation of will in a mental act when, so far as appears, no muscular act is concerned? The reply which there seems to be good warrant to make is that motor innervation invariably accompanies the simplest effort of what seems to be pure will.”

86. This sense of attention, as a forgetting that is a condition for the affirmation and self-actualization of the organism, persisted well into the twentieth century in Bergson (whose work I discuss in chapter four) and many others. See, for example, the assertion that “it is creative apperception more than anything else that makes the individual feel that life is worth living,” in Donald Winnicott, *Collected Papers* (New York: Basic Books, 1951), p. 65; or, more significantly, Abraham H. Maslow’s notion of the “peak-experience” which was widely popularized in the 1960s. Maslow describes a mode of “total

to do with a model of consciousness than with an ideo-motor network of *forces*. It is paradoxically that which immobilizes yet, if seen as a part of a biological heritage, is inseparable from mobility.

As part of the larger physiological reconfiguration of subjectivity that occurred during the nineteenth century, attention, in almost all of the varied ways it was theorized, was inseparable from physical effort, movement, or action. During the period I am examining, attentiveness was generally synonymous with an observer who was fully embodied and for whom perception coincided with physiological and/or motor activity. To specify further, there were three particularly important models through which attention as movement was understood. Occasionally elements of these models overlapped, but for the most part they stood for relatively incompatible positions. (1) Attention as a *reflex* process, part of a mechanical adaptation of an organism to stimuli in an environment. Important here is the evolutionary legacy of attention, and its origins in *involuntary* and instinctive perceptual responses. (2) Attention as determined by the operations of various *automatic* or unconscious processes or forces, a position articulated in many ways, beginning with Schopenhauer, Janet, Freud, and numerous others. (3) Finally, attention as a decisive, *voluntary* activity of the subject, an expression of its autonomous power to actively organize and impose itself on a perceived world. But even those who defended the latter position, like James or Bergson, readily acknowledged the proximity of and blurred limits between voluntary attentiveness and automatic or involuntary states.

During the 1880s the similarity between will and attention became a central issue in work of many kinds, highlighting how far removed psychological thought was now from Mill's associationism and his "psychic chemistry" of laws regarding regularities of sensations, or from Spencer's work in the 1850s that had defined experience as the *passive* response to external order. William James opened his pivotal discussion of attention with an attack on Spencer and the Mills for their repression or avoidance of the problem: "Their motive of this ignoring of the phenomenon of attention is obvious enough. These writers are bent on showing how the higher faculties of the mind are pure products of 'experience;' and experience is supposed to be something simply *given*. Attention, implying a degree of reactive

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attention" in which it is "as if the world were forgotten, as if the percept had for the moment become the whole of Being," in *Toward a Psychology of Being* (New York: Van Nostrand Reinhold, 1968), p. 74. The enduring (or recyclable) nature of such formulations is evident in the 1990s in such best-selling self-improvement handbooks as Mihaly Csikszentmihalyi, *Flow: The Psychology of Optimal Experience* (New York: Harper, 1990), p. 33: "Attention is our most important tool in the task of improving the quality of our experience."

spontaneity, would seem to break through the circle of pure receptivity . . . the creature as absolutely passive clay, upon which experience rains down.”<sup>87</sup> In a general way the shift that takes place in the 1870s is from the *structural* psychology of associationism to various kinds of *functional* psychological accounts.<sup>88</sup> The change is, in part, the product of the increasing importance and richness of a physiological understanding of the human subject. The poverty and inadequacy of associationist theories of knowledge became evident in the face of a widespread coming to terms with the subject as an active center of striving behavior and as a composite of processes unfolding in time.

Thus attention flourished and persisted as a problem, even as various systems of thought in which it was positioned became obsolete. For example, in the 1870s and 1880s, many social thinkers and psychologists either closely associated or identified attention with will. But as historian Lorraine Daston has convincingly shown, the movement toward a more rigorously “scientific psychology,” which gathered momentum and institutional significance in the 1890s, was a joining of forces “in the campaign against consciousness, volition, introspection and other distinctive aspects of mind.” By the turn of the century, “the theory of the will became the common target of an attack launched by several different schools of American and British psychology.”<sup>89</sup> But if the will, the mind, and introspection were superfluous elements, attention remained as an inescapable component of an institutional construction of subjectivity. Hugo Münsterberg and James McKeen Cattell (whose work I discuss in chapter four) can stand as examples of this jettisoning of any notion of an active will, while still retaining attention as an important problem in various attempts to align psychology with strategies of social control. In a related way today, attention remains an indispensable category for institutional discourses and techniques of the subject, not only in its obvious social manifestations like the debate around ADD but also within the sprawling precincts of the cognitive sciences, even as the relevance or existence of “mind” and

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87. James, *Principles of Psychology*, vol. 1, pp. 402–403. See the excellent chapter on James’s contribution to the problem of attention in Gerald E. Myers, *William James: His Life and Thought* (New Haven: Yale University Press, 1986), pp. 181–214.

88. See George Herbert Mead, *Movements of Thought in the Nineteenth Century*, vol. 2 (Chicago: University of Chicago Press, 1936), pp. 386–387. Mead writes: “The structure of the act is the important character of conduct. This psychology is also called motor psychology, as over against the older psychology of sensation; voluntary psychology, as over against the mere association of ideas with each other.”

89. Lorraine J. Daston, “The Theory of Will versus the Science of Mind,” in William R. Woodward and Timothy G. Ash, eds., *The Problematic Science: Psychology in Nineteenth Century Thought* (New York: Praeger, 1982), pp. 88–115.

“consciousness” is contested in those same domains. Both “attention” and “consciousness” are historically constructed notions, and over the last century they have had a variable and independent relation to each other: attention as part of an account of subjectivity is not inherently synonymous with consciousness.<sup>90</sup>

This noncoincidence of attention and consciousness is crucial here. From a certain vantage point, the use of the problem of attention as the basis for an investigation of modernity in the late nineteenth century may seem out of step with a whole legacy of recent critical practice. That is, attention might seem superficially to be a return to traditional problems of an epistemological nature, problems that were radically transformed or made irrelevant by the modern shift to semantic and semiotic frameworks of analysis, which Richard Rorty has described as a move “from epistemology to hermeneutics.”<sup>91</sup> That shift is demonstrated most vividly in the parallel work of, for example, Mallarmé, Nietzsche, and Peirce (and later of Wittgenstein and Heidegger): thinkers operating in circumstances where it is no longer a question of how an already constituted subject knows or perceives the objectivity of an external world but how a subject is provisionally constructed through language and other systems of social meaning and value. Within this syntactic-semantic remaking of epistemology, the study of the function of various psychic *faculties* became increasingly irrelevant. I am suggesting, however, that the emergence of attention as a way of describing or explaining a perceiving subject is in fact an indication of the same general epistemological crisis, the termination of various analyses of consciousness, and the increasing insignificance of the dualistic models within which classical epistemology had operated. Once an observer was understood in terms of the essential subjectivity of vision, attention became a constitutive (and destabilizing) component of perception. The very uncertainty and vagueness about the nature of attention was an indication of the obsolescence of older theories of perception. Attention implied that cognition could no longer be conceived around the unmediated givenness of sense data. To use Peircean terms, it made a previously dyadic system of subject-object into a triadic one, with the third element constituted by a “community of interpretation”: a shifting and intervening space of socially articulated physiological functions, in-

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90. Ludwig Wittgenstein, as an anti-Cartesian, was acutely aware of this noncoincidence of perception, consciousness, and attention: “But don’t the words ‘I perceive’ here show that I am attending to my consciousness?—which is ordinarily not the case,—If so, then the sentence ‘I perceive I am conscious’ does not say that I am conscious, but that my attention is disposed in such-and-such a way.” *Philosophical Investigations*, trans. G. E. M. Anscombe (New York: Macmillan, 1953), p. 125.

91. Richard Rorty, *Philosophy and the Mirror of Nature* (Princeton: Princeton University Press, 1979), p. 315.

stitutional imperatives, and a wide range of techniques, practices, and discourses relating to the perceptual experience of a subject in time. Attention here is not reducible to attention *to* something. Thus attention within modernity is constituted by these forms of *exteriority*, not the intentionality of an autonomous subject. Rather than a faculty of some already formed subject, it is a sign, not so much of the subject's disappearance as of its precariousness, contingency, and insubstantiality.

While it is easy and appropriate to situate the wide-ranging research on attention within the requirements of larger disciplinary and administrative apparatuses for the management and control of human subjects, it is also important to emphasize another related dimension of the knowledge accumulated within the newly configured human sciences in the nineteenth century. Foucault has taken us through what he calls the great eschatological dream of the nineteenth century, which was "to make this knowledge of man exist so that man could be liberated by it from his alienations, liberated from all the determinations of which he was not the master, so that he could, thanks to this knowledge of himself, become again or for the first time master of himself, self-possessed. In other words, one made of man an object of knowledge so that man could become subject of his own liberty and of his own existence."<sup>92</sup> Thus the attempt to determine empirically the specific physiological and practical conditions under which a perceiving subject could be most acutely attentive to the world, or could stabilize and objectify the contents and relations within that world through an exercise of a sovereign and attentive will, would also be a claiming of that subject's self-possession as potential master and conscious organizer of that perceptible world.<sup>93</sup> But scientific psychology never was to assemble knowledge that would compel the efficient functioning of an attentive subject, or that would guarantee a full co-presence of the world and an attentive observer.<sup>94</sup> Instead, the more one investigated, the more attention was shown to contain within itself the conditions for its own

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92. Michel Foucault, "Foucault Responds to Sartre," in *Foucault Live*, trans. John Johnston (New York: Semiotexte, 1989), p. 36. Interview originally published in *La Quinzaine littéraire*, March 1–15, 1968.

93. Nietzsche made this link between attention and the will to mastery: "That which is termed 'freedom of the will' is essentially the affect of superiority in relation to him who must obey: 'I am free, "he" must obey'—this consciousness is inherent in every will; and equally so the straining of the attention, the straight look that fixes itself exclusively on one aim, the unconditional evaluation that 'this and nothing else is necessary now,' the inward certainty that obedience will be rendered—and whatever else belongs to the position of the commander." *Beyond Good and Evil*, trans. Walter Kaufmann (New York: Random House, 1966), pp. 25–26 (sec. 19).

94. A sense of this failure is implicit in Hermann Ebbinghaus's blunt conclusion in 1905: "Der Aufmerksamkeit ist ein rechte Verlegenheit der Psychologie [Attention is a real embarrassment to psychology]," *Grundzüge der Psychologie*, vol. 1, p. 611.

undoing—attentiveness was in fact continuous with states of distraction, reverie, dissociation, and trance. Attention finally could not coincide with a modern dream of autonomy.



It was these physiological conceptions of attention that so much late nineteenth- and early twentieth-century aesthetic theory attempted to escape from, by posing various modalities of contemplation and vision that were radically cut from the processes and activities of the body.<sup>95</sup> The whole neo-Kantian legacy of a disinterested aesthetic perception, from Konrad Fiedler, T. E. Hulme, and Roger Fry up to more recent “formalisms,” has been founded on the desire to escape from bodily time and its vagaries. Hulme, for example, believed the artist was someone in whom “nature had forgotten to attach their faculty for perception to their faculty for action,” and outlined an aesthetic attentiveness that is “emancipated” from the physiological.<sup>96</sup> Much modernist art and music theory has been based on dualistic systems of perception in which a rapt, timeless presence of perception is contrasted with lower, mundane or quotidian forms of seeing or listening.<sup>97</sup> Within the visual arts, Rosalind Krauss argues that modernism imagines two orders, the first of which is “empirical vision, the object as it is ‘seen,’ the object bounded by its contours, the object modernism spurns. The second is that of the formal conditions of the possibility of vision itself, the level at which ‘pure’ form operates as a principle of coordination, unity, structure: visible but unseen,” and Krauss outlines how temporality is necessarily excluded from the latter.<sup>98</sup> Modernist vision with its “all-at-oneness,” she contends, is founded on the cancellation of the empirical conditions of perception, including the experience of successiveness.

What became clear, though often evaded, in work of many different kinds on attention was what a volatile concept it was, and how incompatible with any

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95. In his 1909 “An Essay in Aesthetics,” Roger Fry portrays the aesthetic faculty as a form of perception that was cut off from “the complex nervous machinery” of the body and the instincts. “The whole of animal life, and a great part of human life, is made up of these instinctive reactions to sensible objects, and their accompanying emotions,” while for Fry “imaginative life” is about contemplation disconnected from the possibility of action. In Fry, *Vision and Design* (Cleveland: Meridian, 1956), pp. 17–18. Fry elsewhere argued for “the a priori case for the existence in all aesthetic experiences of a special orientation of the consciousness, and, above all, a special focussing of the attention, since the act of aesthetic apprehension implies an attentive passivity to the effects of sensations apprehended in their relations.” Fry, *Transformations: Critical and Speculative Essays on Art* (London: Chatto and Windus, 1927), p. 5.

96. T. E. Hulme, *Speculations* (New York: Harcourt, Brace and Co., 1924), pp. 154–157.

97. See, for example, the opposition between “free” artistic perception and “unfree” nonartistic perception in Konrad Fiedler, *On Judging Works of Visual Art* (1876), trans. Henry Shaefer-Simmern (Berkeley: University of California Press, 1949).

98. Rosalind E. Krauss, *The Optical Unconscious* (Cambridge: MIT Press, 1993), p. 217.

model of a sustained aesthetic gaze. Attention always contained within itself the conditions for its own disintegration, it was haunted by the possibility of its own excess—which we all know so well whenever we try to look at or listen to any one thing for too long.<sup>99</sup> In any number of ways, attention inevitably reaches a threshold at which it breaks down. Usually it is the point at which the perceptual identity of its object begins to deteriorate and in some cases (as with certain sounds) disappear altogether. Or it can be a limit at which attention imperceptibly mutates into a state of trance or even autohypnosis. In one sense, attentiveness was a critical feature of a productive and socially adaptive subject, but the border that separated a socially useful attentiveness and a dangerously absorbed or diverted attention was profoundly nebulous and could be described only in terms of performative norms. Attention and distraction were not two essentially different states but existed on a single continuum, and thus attention was, as most increasingly agreed, a dynamic process, intensifying and diminishing, rising and falling, ebbing and flowing according to an indeterminate set of variables.<sup>100</sup> Philosopher Alfred Fouillee succinctly expressed the problem: “Concentration of the will and of attention on anything will lead to exhaustion of attention and to a paralysis of the will.”<sup>101</sup> In this sense attention had certain thermodynamic qualities by which a given force could assume more than one form.<sup>102</sup> Emile Durkheim, in his epistemological writings of the 1890s, made explicit the inseparability of attention and distraction within a larger discussion of the blindness inherent in perception: “We

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99. See Théodule Ribot, *The Psychology of Attention* (1889; Chicago: Open Court, 1896), p. 3: “Attention is a state that is fixed. If it is prolonged beyond a reasonable time . . . everybody knows from individual experience, that there results a constantly increasing cloudiness of the mind, finally a kind of intellectual vacuity, frequently accompanied by vertigo.” See also Ribot’s account of pathological failures of attention in his *The Diseases of the Will*, trans. Merwin-Marie Snell (Chicago: Open Court, 1894), pp. 72–76.

100. Gustav Fechner was one of the first to articulate this continuum with some specificity. He outlines a reciprocal relation between attention and “partial sleep” in his *Elemente der Psychophysik*, vol. 2 (Leipzig: Breitkopf und Hartel, 1860), pp. 452–457. Kurt Goldstein wrote that unless attention has “a differential emphasis” it will shift into “a pathological boundness to stimuli,” and he insists “that distractibility and abnormal fixation are expressions of the same functional change under different conditions.” Goldstein, “The Significance of Psychological Research in Schizophrenia,” *Journal of Nervous and Mental Disease* 97, no. 3 (March 1943), p. 272.

101. Alfred Fouillee, “Le physique et le mental: A propos de l’hypnotisme,” *Revue des Deux Mondes* 105 (May 1, 1891), p. 438.

102. Ernst Mach was one of many who, in the 1880s, grasped its apparently paradoxical nature: “Where the development of intelligence has reached a high point, such as is presented now in the complex conditions of human life, representations may frequently absorb the whole of attention, so that events in the neighborhood of the reflecting person are not noticed, and questions addressed to him are not heard;—a state which persons unused to it are wont to call absent-mindedness, although it might with more appropriateness be called present-mindedness.” Mach, *Contributions to the Analysis of the Sensations* (1885), trans. C. M. Williams (La Salle, Ill.: Open Court, 1890), p. 85.

are always to a certain extent in a state of distraction, since the attention, in concentrating the mind on a small number of objects, blinds it to a greater number of others; all distraction has the effect of withdrawing certain psychic states from consciousness which do not cease to be real for all that, since they continue to function.”<sup>103</sup>

In this sense my work qualifies some assumptions that have been part of a long-established critical characterization of modernity in terms of experiences of distraction. In particular, the work of Georg Simmel, Walter Benjamin, Siegfried Kracauer, Theodor Adorno, and others presumed that a distracted perception was central to any account of subjectivity within modernity.<sup>104</sup> The German word *Zerstreung* figured in numerous critical analyses that were indebted to a Kantian theory of knowledge. Here *Zerstreung* referred to a dispersion or scattering of perceptions outside of any necessary synthesis, perceptions as “merely a blind play of representations, less even than a dream.”<sup>105</sup> One of the enduring legacies of this work has been accounts of modernity as a process of fragmentation and destruction in which premodern forms of wholeness and integrity were irretrievably broken up or degraded through technological, urban, and economic reorganizations. One of the premises of Fiedler’s *On Judging Visual Works of Art* (1876) was the diagnosis of a “decay” in the capacity for perception, and this text stands as an important early instance of generalized historical assumptions in which premodern modalities of looking and listening are either implicitly or explicitly predicated as richer, deeper, or more valuable.<sup>106</sup> This evaluation certainly was behind Fiedler’s attempt to establish an “objectivist” aesthetics in which the “presence” of pure visible form is accessible only to an attentive “seeing” cut off from any of the subjective psychological conditions of vision.<sup>107</sup> By the turn of the century Simmel

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103. Emile Durkheim, “Individual and Collective Representations,” in his *Sociology and Philosophy*, trans. D. F. Pocock (Glencoe, Ill.: Free Press, 1953), p. 21.

104. See, for example, Georg Simmel, “The Metropolis and Mental Life,” in his *On Individuality and Social Forms* (Chicago: University of Chicago Press, 1971), pp. 324–339; Walter Benjamin, “On Some Motifs in Baudelaire,” in his *Illuminations*, trans. Harry Zohn (New York: Schocken, 1968), pp. 155–200; Siegfried Kracauer, “Cult of Distraction,” in *The Mass Ornament*, trans. Thomas Y. Levin (Cambridge: Harvard University Press, 1995), pp. 323–330; and Theodor Adorno, “On the Fetish-Character in Music and the Regression of Listening,” in Andrew Arato and Eike Gebhardt, eds., *The Essential Frankfurt School Reader* (New York: Urizen, 1978), pp. 270–299.

105. Kant, *Critique of Pure Reason*, p. 139.

106. Fiedler, *On Judging Works of Visual Art*, p. 40.

107. See the penetrating discussion of Fiedler in Ernst Cassirer, *The Philosophy of Symbolic Forms*, vol. 4: *The Metaphysics of Symbolic Forms*, trans. John Michael Krois (New Haven: Yale University Press, 1996), pp. 81–85: “The psychological context may not be confused with the constitutive: the feelings

had provided an exemplary account of how modern urban life as “the swift and continuous shift of external and internal stimuli” contrasted with “the slower, more habitual, more smoothly flowing rhythm of the sensory-mental phase” of premodern social life. A related position saw the fragmentation implicit in modernity as destructive to a whole set of traditional artistic and cultural values, but in this view distraction was a necessary part of a process of overcoming the bankruptcy of bourgeois aesthetics. Nonetheless there is an overriding sense of distraction as the product of “decay” or “atrophy” of perception within a larger deterioration of experience.<sup>108</sup> Adorno, for example, writes about distraction as “regression,” as perception that has “arrested at the infantile stage” and for which deep “concentration” is no longer possible.<sup>109</sup> For the poet Rilke, writing in the early twentieth century, authentic attention was the precious and rare survival of a lost ideal of artisanal absorption in work, now exiled to the margins of a mechanized and routinized world. The sculptor Rodin incarnated for Rilke “the attentive one whom nothing escapes, the lover who continually receives, the patient one who does not count his time and does not think of wanting the next thing. For him what he gazes at and surrounds with gazing is always the only thing, the world in which everything happens . . . and this way of looking and living is so fixed in him because he acquired it as a handworker.”<sup>110</sup>

My contention, on the contrary, is that modern distraction was *not* a disruption of stable or “natural” kinds of sustained, value-laden perception that had existed for centuries but was an *effect*, and in many cases a constituent element, of the many attempts to produce attentiveness in human subjects.<sup>111</sup> If distraction emerges as a problem in the late nineteenth century, it is inseparable from the parallel construction of an attentive observer in various domains. Although Benjamin, in some of his work, makes affirmative claims for distraction (suggesting that

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that are elicited while taking in a work of art may not be regarded as belonging to its essential aspects. . . . Fiedler in the end regards everything that belongs to the ‘subjective’ side, to the ‘emotional’ world instead of the world of the visible, as merely *obscuring* pure visibility.”

108. See Miriam Hansen’s analysis of Benjamin’s ambivalent historicization of perception in “Benjamin, Cinema and Experience,” *New German Critique* 40 (Winter 1987), pp. 179–224.

109. Adorno, “On the Fetish-Character in Music and the Regression of Listening,” p. 288.

110. Rainer Maria Rilke, *Letters of Rainer Maria Rilke 1892–1910*, trans. Jane B. Green and M. D. Norton (New York: Norton, 1945), letter to Lou Andreas-Salome, August 8, 1903.

111. John Dewey is one of many who, by the 1880s, had established the inseparability of a normative model of attention from experiences of shock, dissociation, and novelty: “A shock of surprise is one of the most effective methods of arousing attention. The unexpected in the midst of the routine is the accentuated. The very contrast between the two rivets attention, and more effectively dissociates each from the other. Thus variety and mobility of psychic life are secured.” Dewey, *Psychology*, p. 127.



*Fernand Khnopff, Listening to Schumann, 1883.*

the disruption inherent in shock and distraction held forth the possibility of new modes of perception), he does so in terms of a fundamental duality in which an absorbed contemplation, purified of the excess stimuli of modernity, was the other term.<sup>112</sup> “Distraction and concentration form polar opposites,” declares Benjamin in his well-known discussion of architecture and film as two paradigms of modern

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112. Of course in German there is no cognate of *contemplation*. Nonetheless it is worth remembering the theological resonances of this Latinate word. Not only does it mean “viewing or considering with continued attention,” but as Adorno’s early Frankfurt Institut colleague, Paul Tillich, later wrote: “Contemplation means going into the temple, into the sphere of the holy, into the deep root of things, into their creative ground.” Tillich, *The New Being* (New York: Scribner’s, 1955), p. 130. For Benjamin, even Franz Kafka, one of his exemplary modernists, is characterized by a problematic relation to secularized modalities of perception: “Even if Kafka did not pray—and this we do not know—he still possessed in the highest degree what Malebranche called ‘the natural prayer of the soul’: attentiveness. And in this attentiveness he included all living creatures, as saints include them in their prayers.” Benjamin, *Illuminations*, p. 134.

“reception in a state of distraction.”<sup>113</sup> I argue, instead, that attention and distraction cannot be thought outside of a continuum in which the two ceaselessly flow into one another, as part of a social field in which the same imperatives and forces incite one and the other.

Among the many elements that shaped Benjamin’s historicization of perception was the work of the Viennese art historian Alois Riegl. In his 1902 book *The Dutch Group Portrait*, Riegl outlined a countermodel of attention with which he opposed not so much contemporary forms of distraction but rather modernized forms of subjectivity, characterized by absorption in a physiologically grounded perception. If Riegl’s work was informed by his familiarity with the research of Wundt and others, his specific account of attentiveness sought to resolidify the unitary self that scientific psychology was in the process of dismantling. The transitory and provisional nature of mental states and perceptual experiences which Wundt and others detailed were quite incompatible with Riegl’s postulation of a subject whose integrity depended on a reciprocal relation between an unwavering subjective attentiveness and a coherent objective world. For Riegl, the individual defined itself through the exercise of a directed concentration that exceeded the domain of mere psychophysiology. And in *The Dutch Group Portrait* he made clear that his privileged model of the individual observer presupposed an ideal of attentive *intersubjectivity*, as opposed to modern forms of interiority, absorption, and psychic isolation, or to the dissolution of this communal world which he saw figured within the general cultural phenomenon of “Impressionism.” Thus the group portraits of seventeenth-century Holland provided, at the beginning of the twentieth, a utopian figuration of a world of mutual communication (a secular equivalent of religious experience) and a world in which art would be inseparable from an imaginary democratic harmony of individual and community. For Riegl the goal of these paintings was the “representation of a selfless psychological element (attention), by means of which the individual psyches were forged together as a whole in the consciousness of the beholding subject.”<sup>114</sup> Modern distraction could only erode such a possibility. But for Riegl, the dream of community, of a hushed moment of psychic communion, as figured, say, in Rembrandt’s *Syndics*, existed as an aesthetic construction to be apprehended by the individual as a solitary observer. Without question, the new forms of collective reception, such as

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113. Benjamin, *Illuminations*, pp. 239–240.

114. Alois Riegl, “The Dutch Group Portrait (excerpts),” trans. Benjamin Binstock, *October* 74 (Fall 1995), p. 11. See Ignasi de Sola-Morales’s valuable discussion of subjectivity in Riegl and Fiedler, in “Toward a Modern Museum: From Riegl to Giedion,” *Oppositions* 25 (Fall 1982), pp. 68–77.

cinema, concretized in attentive mass audiences around 1900, would have disheartened Riegl, whose ideal could only be an elitist and regressive fantasy of a premodern and ethically charged attentiveness.<sup>115</sup>

Various accounts of modern subjectivity have positioned attentiveness as a fundamental product of Western modernity in general, well beyond my frame of the late nineteenth century. Ferdinand Tönnies, in his influential distinction between *Gemeinschaft* and *Gesellschaft*, singles out attention as a constitutive feature of the latter, as something characteristic of modern forms of isolation and fragmentation that supplanted premodern communal relations. In *Gesellschaft* the conduct of commerce and trade based on deliberation depends on the social cultivation of attentive habits: “The exertion of the mind on the imagination of the desired object, or the conscious or rational attention, i.e. attention linked to thought. This is a form which underlies all rational activities. One focusses, as it were, one’s telescope on that object. . . . He will ‘open his eyes’ and ‘draw his attention’ to it.”<sup>116</sup> Throughout Nietzsche’s work one finds a related account of modern culture in which a narrowed attentiveness is central. As I suggested earlier, for Nietzsche attention also held the possibility of an absorption, a forgetting that could be a precondition for life-affirming action, even a forgetting that could be the attaining of instants of eternity within the flux of human time.<sup>117</sup> In a more pervasive and degraded form,

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115. See the discussion of Riegl and attention in Margaret Olin, *Forms of Representation in Alois Riegl’s Theory of Art* (University Park: Pennsylvania State University Press, 1992), pp. 155–169. Olin stresses that for Riegl *Aufmerksamkeit*, among other things, “denotes a polite or deferential act directed toward another.”

116. Ferdinand Tönnies, *Community and Society* (1887), trans. Charles P. Loomis (East Lansing: Michigan State University Press, 1957), p. 145. See the assessment of Tönnies in Harry Liebersohn, *Fate and Utopia in German Sociology 1870–1923* (Cambridge: MIT Press, 1988), pp. 11–39.

117. Obviously, this touches on the proximity of the problem of attention to the vast history and sociology of “spiritual exercises.” But in practices that sought the apprehension of a pure undifferentiated essence, the paradoxical nature of attention was always a fundamental problem; it allowed a certain initial concentration of the mind, but inevitably its intrinsic temporal limits still anchored the subject in a transitory world of comings and goings. An early Buddhist text insists: “All kinds of ideation are to be discarded as fast as they arise; even the notions of controlling and discarding are to be got rid of. One’s mind should become like a mirror, reflecting things, but not judging them or retaining them. Conceptions arising from the senses and lower mind will not take form of themselves, unless they are grasped by the attention; if they are ignored, there will be no appearing and disappearing. The same is true of conditions outside the mind; they should not be allowed to engross one’s attention and so to hinder one’s practice . . . there should be no lingering notions of the self.” Cited in Aldous Huxley, *The Perennial Philosophy* (New York: Harper, 1944), p. 290. For an exemplary recent text, see J. Krishnamurti, *The Flame of Attention* (New York: Harper, 1984). For Western research on this problem see, for example, the discussion of studies on attention and meditation in Marjorie Schuman, “The Psychophysiological Model of Meditation and Altered States of Consciousness: A Critical Review,” in Julian Davidson and Richard Davidson, eds., *The Psychobiology of Consciousness* (New York: Plenum Press, 1980), pp. 333–378. Also relevant are the remarks on attention and meditative practices in Georges Bataille, *Inner Experience*, trans. Leslie Anne Boldt (Albany: SUNY Press, 1988), pp. 15–18.

however, he sees it as a mere focusing on the present moment, as it was for Tonies: “Now only one kind of seriousness remains in the modern soul, that directed towards the news brought by the newspaper or the telegraph. To employ the moment and, so as to profit from it, to assess its value as quickly as possible!—one might believe that modern man has retained only one virtue, that of *presence of mind*.”<sup>118</sup> Nietzsche, then, suggests the dilemma: an absorbed attentiveness is both essential for the creative exceeding of the limits of individuality and at the same time a necessary part of the individual’s functioning within a modern world of economic facts and quantities.

In the twentieth century, this general account of modern subjectivity is developed in many places. For example, Max Horkheimer, writing in 1941, described the subject within modern culture as needing the automaton’s ability to react correctly: “The individual no longer has any future to care for, he has only to be ready to adapt himself, to follow orders, to pull levers, to perform ever different things which are ever the same. The social unit is no longer the family but the atomic individual. . . . Contemporary individuals, however, need presence of mind even more than muscles; the ready response is what counts, affinity to every kind of machine, technical, athletic, political.”<sup>119</sup> After World War II, David Riesman developed his characterological model of the “other-directed” person, partly in terms of the sensory overload and perceptual acceleration of a social field in which “work and leisure are interlaced.” This new cosmopolitan individual is the product of the modernized “social environment to which he early becomes attentive. . . . The other-directed person must be able to receive signals from far and near; the sources are many, the changes rapid. What can be internalized, then, is not a code of behavior but the elaborate equipment needed *to attend* to such messages and occasionally to participate in their circulation. As against shame and guilt controls, though of course these survive, one prime psychological lever of the other-directed person is a diffuse anxiety. This control equipment, instead of being like a gyroscope, is like a radar.”<sup>120</sup>

I will conclude this section by recalling some of Hannah Arendt’s broad reflections in her *The Human Condition*. Modernity, she contends, involves not

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118. Friedrich Nietzsche, *Untimely Meditations*, trans. R. J. Hollingdale (Cambridge: Cambridge University Press, 1983), p. 219; emphasis added.

119. Max Horkheimer, “The End of Reason,” in Arato and Gebhardt, eds., *The Essential Frankfurt School Reader*; p. 38.

120. David Riesman, *The Lonely Crowd: A Study of the Changing American Character*, rev. ed. (New York: Doubleday, 1953), pp. 41–42; emphasis added.

simply a reversal of the *vita contemplativa* and the *vita activa*, of the relative values of thinking (*theoria*) and doing, but in fact the destruction of contemplation in its original sense altogether. The modern privileging of making and fabricating rendered meaningless the idea of contemplation as beholding the truth. “After being and appearance had parted company and truth was no longer supposed to appear, to reveal and disclose itself to the mental eye of the beholder,” the emergence of modern forms of beholding, of attention, is inseparable from the dissolution of anything fixed, permanent, or eternal.<sup>121</sup> Attention can be understood through Arendt’s account of forms of looking that are compatible with “the principle of interchangeability, then the relativization, and finally the devaluation of all values.”<sup>122</sup>



Within Arendt’s account of modernity, one of the values that emerges to supplant traditional beliefs is “the principle of life itself.” She singles out Marx, Nietzsche, and Bergson as thinkers who equate Life and Being. To them, life is privileged over the problem of consciousness, which is too bound up in an older static model of contemplation and truth. But, as Arendt argues, Man “did not gain life, strictly speaking, either; he was thrust back upon it, thrown into the closed inwardness of introspection, where the highest he could experience were the empty processes of reckoning of the mind, its play with itself. The only contents left were appetites and desires, the senseless urges of the body which he mistook for passion and which he deemed to be ‘unreasonable’ because he found he could not ‘reason,’ that is, not reckon with them. The only thing that could now be potentially immortal . . . was life itself, that is the possibly everlasting life process of the species mankind.”<sup>123</sup> One of the places where we can first discern this turbulent

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121. Hannah Arendt, *The Human Condition* (Chicago: University of Chicago Press, 1958), p. 290. It’s possible to associate Arendt’s historical schema with Martin Heidegger’s characterizations of the primordial “self-disclosing look” of the ancient Greeks which “makes presence possible,” and the “glaring, predatory look” of the modern subject “by means of which beings are, so to say, impaled and become in this way first and foremost objects of conquest,” in his *Parmenides*, trans. Andre Schuwer and Richard Rojewicz (Bloomington: Indiana University Press, 1992), p. 108.

122. Arendt, *The Human Condition*, p. 307. Remarking on the “dazed, ‘tranquillized,’ functional type of behavior” characterizing mid-twentieth-century Western societies, Arendt presciently concludes (p. 322): “It is quite conceivable that the modern age—which began with such an unprecedented and promising outburst of human activity—may end in the deadliest, most sterile passivity history has ever known.” See the related discussion of modernity “as a process that will abolish the distinction between private and public consciousness” in Hans Magnus Enzensberger, “The Industrialization of the Mind,” in his *Critical Essays*, ed. Reinhold Grimm and Bruce Armstrong (New York: Continuum, 1982), pp. 3–14. Also important is the historical account of the shifting relation between contemplation and leisure in Sebastian de Grazia, *Of Time, Work, and Leisure* (New York: Twentieth Century Fund, 1962), pp. 19–28.

123. Arendt, *The Human Condition*, pp. 320–321.

transition from a philosophy of consciousness (and form) to a philosophy of life, where the irrational and dynamic character of subjectivity becomes constitutive of truth, is in the work of Schopenhauer, one of the first major nineteenth-century thinkers to detail the unstable and specifically *temporal* nature of perception.<sup>124</sup> Writing in 1844, he notes the irreducibly fragmentary and distracted character of subjective experience:

The intellect apprehends only successively, and to grasp one thing it must give up another, retaining nothing of it but traces which become weaker and weaker. The idea that is now vividly engrossing my attention is *bound* after a little while to have slipped entirely from my memory. . . .

Sometimes external impressions of sense throng in on it, disturbing it and interrupting it, and forcing the strangest and oddest things on it at every moment; sometimes *one* idea draws in *another* by the bond of association, and is itself displaced by it; finally, even the intellect itself is not capable of sticking very long and continuously to *one* idea. On the contrary, just as the eye, when it gazes for a long time at *one* object, is soon not able to see it distinctly any longer, because the outlines run into one another, become confused, and finally everything becomes obscure, so also through long-continued rumination on *one* thing our thinking gradually becomes confused and dull, and ends in complete stupor.<sup>125</sup>

Schopenhauer is one of the earliest to grasp the link between attention and perceptual disintegration, and he compares the “defective” and “fragmentary” nature of subjective attentiveness to “a magic lantern, in the focus of which only one picture can appear at a time; and every picture, even when it depicts the most noble thing, must nevertheless soon vanish to make way for the most different and even most vulgar thing.”<sup>126</sup> Part of Schopenhauer’s cultural modernity is his identification of temporality itself as a source of subjective anguish. Human beings, he says, would seem “strange and pitiable” to “beings of a higher order, whose

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124. Around the same time, Johann Friedrich Herbart intuited the disorder implicit in subjective experiences of succession (the way perception was effectively a series of fusions, fadings, blendings, and displacements); but his work was one of many intellectual undertakings in the first half of the nineteenth century that attempted to determine laws of association by which perception had an inherent logic and coherence. See my discussion of Herbart in *Techniques of the Observer*, pp. 100–102.

125. Schopenhauer, *The World as Will and Representation*, vol. 2, pp. 137–138.

126. *Ibid.*, p. 138.

intellect did not have time as its form.”<sup>127</sup> Time here has none of its Kantian characteristics: there is no longer any guarantee of orderliness to the contents of consciousness, and a window opens onto the cognitive chaos of modernity against which attention will be conjured up to do battle. Schopenhauer describes “the extremely heterogeneous mixture of fragments of representations and of ideas of every kind which are constantly crossing one another in our heads.”<sup>128</sup> Obviously the question of time has been part of Western epistemological thought since its beginnings, but what is decisively new by the 1830s is the pervasive recognition of the *physiological* conditions of knowledge, paralleling the rapid growth of the empirical study of the human body. The problem of consciousness becomes inseparable from the question of physiological temporality and process.<sup>129</sup> Beginning with Schopenhauer and continuing into the early twentieth century in Bergson and Whitehead, there are a diverse range of attempts to articulate epistemological positions that take account of the shifting processual nature of a physiological subject who effectively coincides with the ceaseless pulsings and animations of the body. For it is the specific temporality of the body that annihilated the possibility of subjective *reflection* in the Cartesian sense and that also more gradually undermined accounts of perception based on principles of *association* of discrete elements. Proponents of physiological optics asked with skepticism: when did an observer ever demonstrably experience a stable or discrete “perception”? Within this problematic, Ernst Cassirer disparagingly identifies Schopenhauer’s work as the first modern philosophical project founded on a model of an “immediate instinctive *intuition*” rather than conceptual reflection.<sup>130</sup>

One of the most significant moves of Schopenhauer’s entire work is his rejection of Kant’s notion of the transcendental synthetic unity of apperception as an explanation for how a world is represented to us, for how successive perceptions are rendered intellectually coherent. Instead of some a priori principle of unity, Schopenhauer sees the will alone as holding all representations together. In one sense, of course, the will *is* Schopenhauer’s principle of unification; but he situates us in a world that no longer has any significant common ground with Kant’s. If for Kant the synthetic unity of apperception gave an apodictic or absolute character

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127. *Ibid.*, p. 139.

128. *Ibid.*

129. See my discussion of this issue in relation to the rise of physiological optics in the 1830s and 1840s in *Techniques of the Observer*, pp. 67–96.

130. Ernst Cassirer, *Das Erkenntnisproblem in der Philosophie und der Wissenschaft der neueren Zeit*, vol. 3 (1907; Darmstadt: Wissenschaftliche Buchgesellschaft, 1971), pp. 413–414.

to perceptual experience, the will in Schopenhauer coincides with a primal absence of any reason, logic, or meaning behind appearances. In Terry Eagleton's words, "The Schopenhauerian will, as a form of purposiveness without purpose, is in this sense a savage travesty of the Kantian aesthetic."<sup>131</sup> The chaotic successiveness of perception is determined only by the unmotivated and blind movement of will. For most individual subjects, the will was directly experienced as one's own body; that is, the will's most immediate objectified form was the instinctual desiring economy of one's physical existence.<sup>132</sup> Thus our relationship to the sensory manifold of the world is determined not by the structuring imposition of a priori forms but through the fathomless vagaries of aimless unconscious, often primarily sexual, drives and forces. Yet it was this understanding which impelled Schopenhauer to postulate the possibility of a looking, a purified perception that would be a suspension from time and the body's economy, which was to become a mirage of modernism by the end of the century.

In this light it is possible to position Schopenhauer not only as the overturning of a Kantian model of synthesis, but as an early and decisive nineteenth-century assault on the very possibility of a philosophy of consciousness. Distraction and forgetfulness (suggesting sublimation and repression) became for Schopenhauer powerful components within the fluid economy of psychic experience. All of the mental states (sleep, trance, fainting, daydream, dissociation) that classical thought had marginalized or excluded from its theories of knowledge now took center stage as parts of psychological accounts of normative subjectivity. Within a more generalized historical frame, we see the disintegration of the epistemological tradition running from Descartes to Kant for which consciousness or the cogito is the ground of all knowledge and certitude. For it is only when consciousness ceases to have an unquestioned foundational priority that attention emerges

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131. Terry Eagleton, *The Ideology of the Aesthetic* (Oxford: Blackwell, 1990), p. 159. He continues: "With Schopenhauer, desire has become the protagonist of the human theater, and human subjects themselves its mere obedient bearers or underlings. This is not only because of the emergence of a social order in which, in the form of commonplace possessive individualism, appetite is now becoming the order of the day, the ruling ideology and dominant social practice; it is more because of the perceived *infinity* of desire in a social order where the only end of accumulation is to accumulate afresh. In a traumatic collapse of teleology, desire comes to seem independent of any particular ends, or at least grotesquely disproportionate to them." See the related account in Rudiger Safranski, *Schopenhauer and the Wild Years of Philosophy*, trans. Ewald Osers (Cambridge: Harvard University Press, 1990), pp. 191–222. Also valuable is the chapter on Schopenhauer in Michel Henry, *The Genealogy of Psychoanalysis*, trans. Douglas Brick (Stanford: Stanford University Press, 1993), pp. 164–203.

132. "My teaching asserts that the whole body is the will itself, exhibiting itself in the perception of the brain. . . . The whole body is and remains the presentation of the will in perception." Schopenhauer, *The World as Will and Representation*, vol. 2, p. 250.

as a problem—when a subject ceases to be synonymous with a consciousness that is essentially self-present to itself, when there is no longer an inevitable congruence between subjectivity and a thinking “I.” Freud, for example, had duly noted the huge significance of Henry Maudsley’s 1868 declaration “It is a truth that cannot be too distinctly borne in mind that consciousness is not co-extensive with mind.”<sup>133</sup> Obviously consciousness continues to be a central issue in many places, but the emphasis on attentiveness as one of its constitutive features is a sign of its increasingly provisional and problematic character.

By the end of the nineteenth century, the temporality that had been a problem for Schopenhauer was an integral part of a wide range of psychological and epistemological positions.<sup>134</sup> Wilhelm Dilthey put forth his notion of subjective experience as “a continuous stream” even as he affirmed the unity of consciousness. In language that has not fully broken with Herbartian psychomechanics and yet is also precociously evocative of cinematic dissolve, Dilthey writes that “the course of psychic life as given in the flow of time can only manifest one relative representation as it disappears and another relative representation as it begins to appear.” Dilthey’s dilemma, which many others faced as well, was how to account for both the impalpability of lived subjective experience and the individual as an active and creative subject within objective historical processes. Dilthey’s gamble was that there was a nexus at which those two categories of temporality intersected: “Let us say that in every present, there occurs in consciousness a synthesis whose elements point both backwards and forwards to an objective nexus that encompasses what we know and do.”<sup>135</sup>

Dilthey also pondered how the selective and delimited nature of attention was related to the relative narrowness of consciousness. He was firmly opposed to the notion of the unconscious, and sought to bypass the problems this dualism posed for his free subject of lived knowledge and experience. Instead, he imagined consciousness as an immense terrain that was illuminated only in very small areas by the beam of attention. Many representations, psychic acts, and processes

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133. Sigmund Freud, *The Interpretation of Dreams*, trans. James Strachey (New York: Avon, 1965), p. 650, note 1. The quote is from Henry Maudsley, *The Physiology and Pathology of the Mind*, 2d ed. (London: Macmillan, 1868).

134. For example, even a figure as central to the institutionalization of scientific psychology as G. Stanley Hall expressed, as late as 1902, his admiration for and indebtedness to Schopenhauer. See Dorothy Ross, *G. Stanley Hall: The Psychologist as Prophet* (Chicago: University of Chicago Press, 1972), p. 264.

135. Wilhelm Dilthey, *Introduction to the Human Sciences* (1883), ed. Rudolf A. Makkreel and Frithjof Rodi (Princeton: Princeton University Press, 1989), pp. 317–318.

“are conscious but not attended to, noticed or possessed in reflexive awareness.” He describes attention in terms of a “quantum of energy” that diminishes the scope of attentive awareness the more intently it is deployed. “If I am looking out the window and perceive a landscape, the light of consciousness may well distribute itself evenly over the entire landscape. But as soon as I try to apprehend a single tree or even a branch in greater detail, the consciousness which I direct toward the rest of the landscape diminishes.”<sup>136</sup> In the mid-1880s, Dilthey was, like many others, reacting against associationist explanations of mental and perceptual processes which posited the objects of consciousness or perception as fixed quantities or representations.<sup>137</sup> Attention became part of his reconceptualization of psychic experience in terms of new “life-categories” in which the temporal continuum of individual existence and the historicity of human culture were intertwined processes. “The entire *acquired nexus* of psychic life . . . transforms and shapes those perceptions, representations, and states on which the attention is directly focused, and which thus engage our consciousness most strongly. . . . Thus there is a constant interaction between the self and the milieu of external reality in which the self is placed, and our life consists of the interaction.”<sup>138</sup>

In the work of Charles S. Peirce attention occupies a pivotal position. In 1868 he sweepingly declared: “Sensation and the power of abstraction or attention may be regarded as, in one sense, the sole constituents of all thought.” But he severs attention from any notion implying a fullness of presence or direct perception of the world. For Peirce, attention is an act of selection, but not in the sense of a gaze singling out an object for contemplation or scrutiny. “By the force of attention, an emphasis is put on one of the objective elements of consciousness.”<sup>139</sup> But it has no connection with Peirce’s regulative concept of Firstness, which designates the idea of absolute presence and self-immediacy, preceding all synthesis and

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136. *Ibid.*, pp. 313–314.

137. On the larger rejection of associationism in the 1880s, see Maurice Mandelbaum, *History, Man, and Reason: A Study in Nineteenth Century Thought* (Baltimore: Johns Hopkins University Press, 1971), pp. 218–222.

138. Wilhelm Dilthey, “The Imagination of the Poet” (1887), in Dilthey, *Poetry and Experience*, vol. 5 of his *Selected Works*, ed. Rudolf A. Makkreel and Frithjof Rodi (Princeton: Princeton University Press, 1985), p. 72. “But as perceptions or representations appear in the real nexus of psychic life they are permeated, colored, and enlivened by feelings. The distribution of feelings, interests, and the way they influence our attentiveness, bring about, in conjunction with other causes, the appearance, the gradual unfolding, and the disappearance of representations. Efforts of attention—which derive from feelings, but are forms of volitional activity—impart an impulsive energy to individual images or permit them to fade away again. In the real psyche, therefore, every representation is a *process*” (p. 68).

139. Peirce, “Some Consequences of Four Incapacities,” pp. 61–62.

differentiation. For Peirce human perception was intrinsically incapable of such a state of newness, of nonreferentiality. A truly immediate perception for Peirce would be of some timeless, unchanging condition. Instead, attention was irrevocably constituted in time, in what he called Secondness. “Attention is a matter of continuous quantity; for continuous quantity, so far as we know it, reduces itself in the last analysis to time. . . . Attention is the power by which thought at one time is connected with and made to relate to thought at another time.” Attention, he contends, is an act of induction. In the context of my argument, the importance of Peirce’s position is its anti-opticality, its rejection of the visual models at the core of traditional epistemological thought.<sup>140</sup>

It was another maverick philosopher, William James, who put forward one of the most influential dynamic models of mental activity, using the notion of a “stream of thought.” Working with the more act-oriented term “thought” instead of “consciousness,” James uses the image of the stream to describe the fundamentally *transitive* nature of subjective experience—a perpetually changing but continuous flow of images, sensations, thought fragments, bodily awareness, memories, desires—which he sets against older and even contemporary accounts for which consciousness has discrete contents and elements. James modifies the Baudelairean image into “a kaleidoscope revolving at a uniform rate” as a way of describing the brain “as an organ whose internal equilibrium is always in a state of change, the changes affecting every part.”<sup>141</sup> At the same time it is also important to understand how the stream is James’s figuration of an impossible harmony: that is, in which the unstable, kinetic, and fragmented character of modern subjective life is at once acknowledged but reconceived as fundamentally continuous and as that which endows subjectivity with an irreducible unity, even in the face of all the dissociations, anesthetics, hallucinations, and multiple selves that James had studied so thoroughly. The idea of the stream of thought is central in his rejection of spatial or classical scenic models of the mind in favor of temporal ones. “No

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140. Richard Rorty discusses the pragmatist critique of metaphors of vision, correspondence, picturing, and the spectator theory of knowledge in his *Consequences of Pragmatism* (Minneapolis: University of Minnesota Press, 1982), pp. 160–166.

141. “We believe the brain to be an organ whose internal equilibrium is always in a state of change,—the changes affecting every part. The pulses of change are doubtless more violent in one place than in another, their rhythm more rapid at this time than at that. As in a kaleidoscope revolving at a uniform rate, although the figures are always rearranging themselves, there are instants during which the transformation seems minute and interstitial and almost absent, followed by others when it shoots with magical rapidity, relatively stable forms thus alternating with forms we should not distinguish if seen again; so in the brain the perpetual rearrangement must result in some forms of tension lingering relatively long, whilst others simply come and pass.” James, *Principles of Psychology*, vol. 1, p. 246.

doubt," he writes in a well-known passage, "it is often convenient to formulate the mental facts in an atomistic sort of way, and to treat the higher states of consciousness as if they were all built out of unchanging simple ideas. . . . But . . . there is nothing in nature to answer to our words. A permanently existing 'idea' or 'Vorstellung' which makes its appearance before the footlights of consciousness at periodic intervals, is as mythological an entity as the Jack of Spades."<sup>142</sup> Despite the singularity of much of James's work and the residual temptation to associate his "stream of thought" with what was once thought of as a Joycean-Bergsonian modernism, it is important to see how his work lies adjacent to a larger institutional field in which scientific psychology generally was abandoning *elemental* conceptions of consciousness in favor of operational or functional models.<sup>143</sup> At the same time, techniques of suggestion in early forms of modern advertising effectively coincided with this model of psychic behavior and aesthetic creativity, as Franco Moretti has shown: "Here we find precisely the randomness, discontinuity, uncontrollability and depth of the stream of consciousness. . . . The associations of stream of consciousness are by no means 'free.' They have a cause, a driving force, which is *outside* the individual consciousness. . . . The absence of internal order and of hierarchies indicates its reproduction of a form of consciousness which is subjugated to the principle of the *equivalence of commodities*."<sup>144</sup>

James is of particular interest for his emphasis on the primacy of the "stream" and at the same time for situating attention, that which figuratively freezes the stream, as an indispensable activity "without which experience is an utter chaos."<sup>145</sup> Attention for James is inseparable from the possibility of a cognitive and perceptual immediacy in which the self ceases to be separate from a world of objects, even if a stabilization of those objects can never occur.<sup>146</sup> It becomes the

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142. *Ibid.*, p. 236.

143. For example, even someone as rooted within an older associationist psychology as Théodule Ribot used language that loosely overlaps with James's, in describing the ordinary mechanism of mental life as "a perpetual coming and going of inward events, in a marching by of sensations, feelings, ideas, and images. . . . Properly speaking, it is not, as frequently has been said, a chain, a series, but it is rather an irradiation in various directions and through various strata; a mobile aggregate which is being incessantly formed, unformed, and reformed." Ribot, *The Psychology of Attention*, p. 3. On Ribot and the academic foundations of scientific psychology in France, see John L. Brooks, "Philosophy and Psychology at the Sorbonne 1885–1913," *Journal of the History of Ideas* 29 (April 1993), pp. 123–145.

144. Franco Moretti, *Signs Taken for Wonders: Essays in the Sociology of Literary Forms*, rev. ed., trans. Susan Fischer et al. (London: Verso, 1988), p. 197.

145. James, *Principles of Psychology*, vol. 1, p. 402.

146. Attention as a guarantor of cognitive immediacy would be part of what James Livingston sees as a larger preoccupation of pragmatism in the late nineteenth century: "Its theoreticians do not believe that thoughts and things inhabit different ontological orders: they do not acknowledge an external or

necessary means for managing the irreducible plurality of experience, and as such it is a reconciliatory attempt to think simultaneously in terms of fluidity and immobilization. That is, James acknowledges the impossibility of epistemological certainties but is quick to head off the wider and disturbing implications which that acceptance entails.<sup>147</sup> Attention has a particular ethical significance: “The practical and theoretical life of the whole species, as well as of individual beings, results from the selection which the habitual direction of their attention involves. . . . Each of us literally *chooses*, by his ways of attending to things, what sort of a universe he shall appear to himself to inhabit.”<sup>148</sup> At any given moment the mind is a potentially paralyzing welter “of simultaneous possibilities. Consciousness consists in . . . the selection of some, and the suppression of the rest by the reinforcing and inhibiting agency of attention.”<sup>149</sup> He compares the observer to an artist: confronted with “the primordial chaos of sensations,” we extricate our subjective worlds, selecting and rejecting, as a sculptor works on a block of stone. But this sense of the aesthetic dimension of the attentive self is elided with ethical responsibilities as well. For James the fact that we all seem to inhabit a common perceptual world is due not to the a priori structure of our minds, but rather to the overlapping common choices made by a historically evolving human community of free individuals.<sup>150</sup> What we each attend to in the world is not identical but effectively similar and

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natural realm of objects, of things-in-themselves, which is ultimately impervious to, or fundamentally different than, thought or mind or consciousness. Accordingly they escape the structure of meanings built around modern subjectivity, which presupposes the self's separation or cognitive distance from this reified realm of objects.” Livingston, *Pragmatism and the Political Economy of Cultural Revolution, 1850–1940* (Chapel Hill: University of North Carolina Press, 1994), p. 214.

147. Cornel West outlines the mediating dimension of James's thought, and in particular how his work sought to lessen the shock of recent scientific and psychological work for an American middle-class readership. See West, *The American Evasion of Philosophy: A Genealogy of Pragmatism* (Madison: University of Wisconsin Press, 1989), p. 55.

148. James, *Principles of Psychology*, vol. 1, p. 424. It should be at least noted that one of James's most celebrated undergraduate students completed and published an idiosyncratic research project on attention under his supervision. See Gertrude Stein, “Cultivated Motor Automatism: A Study of Character in Its Relation to Attention,” *Psychological Review* 5, no. 3 (May 1898), pp. 295–306.

149. James, *Principles of Psychology*, vol. 1, p. 288. See the intellectual genealogy in Henri Ey, *Consciousness: A Phenomenological Study of Being Conscious and Becoming Conscious*, trans. John Flodstrom (Bloomington: Indiana University Press, 1978), p. 19: “Attention is that force through which Maine de Biran, William James, Bergson, Janet, etc. have defined psychical energy and dynamism. Attention to life, interest, concentration, intentional orientation, and motivation all express the tension toward a desired goal, proposed or prescribed, which constitutes the ‘intentional kernel’ or seat of a ‘state of consciousness.’”

150. “But all the while the world we feel and live in will be that which our ancestors and we, by slowly cumulative strokes of choice, have extricated out of this, like sculptors, by simply rejecting certain parts of the given stuff. . . . In my mind and in your mind the rejected portions and the selected portions are to a great extent the same. The human race as a whole largely agrees to what it shall notice and name, and what not.” James, *Principles of Psychology*, vol. 1, p. 289. The interrelation between the aesthetic

purposive enough to produce a common realm of communication, interaction, and value.<sup>151</sup>

But James's emphasis on the creative and pragmatic dimension of the attentiveness of any given autonomous subject coincides with the historical emergence of increasingly powerful technologies and institutions that would determine and enforce *externally* the objects of attention for mass populations.<sup>152</sup> The influential William B. Carpenter (whose work James knew well) had sketched, in the 1870s, the outlines of this disciplinary framework in which attention is conceived as an element of subjectivity to be externally shaped and controlled: "It is the aim of the Teacher to fix the attention of the Pupil upon objects which may have in themselves little or no attraction for it. . . . The habit of attention, at first purely automatic, gradually becomes, by judicious training, in great degree amenable to the Will of the Teacher, who encourages it by the suggestion of appropriate motives, whilst taking care not to overstrain the child's mind by too long dwelling upon one object."<sup>153</sup> The possibility of this kind of learned behavior paralleled many other new social forms of self-regulation and self-control in the nineteenth century.

James is representative of much of the discourse on attention in that he attempted to salvage some relatively stable notion of consciousness and some form of a distinct subject/object relation, but he tended to describe only a fleeting

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and the ethical as a component of "the self-choosing infinite self" is discussed in terms of nineteenth-century postromanticism in Charles Taylor, *Sources of the Self: The Making of the Modern Identity* (Cambridge: Harvard University Press, 1989), pp. 449–455.

151. James's position here was taken up and developed by many in the next generation of "functionalists." James R. Angell, a pupil of both James and Dewey, insisted, "In all forms of attention, then, we find selective activity going on. Selection always implies a purposive, forward-looking type of action, and this is precisely what attention is in all its forms. It stands for the fact that the organism is teleological in its very constitution, that is to say, the organism contains within itself certain *ends* to be attained in the course of development by adjustive activities. . . . Attention is always an effort to conquer our own impulses, or thoughts, in the interest of the end to which we are attempting to attend." Angell, *Psychology: An Introductory Study of the Structure and Function of Human Consciousness* (New York: Henry Holt, 1904), pp. 75–76.

152. Ross Posnock discusses James's anxiety about the rise of positivist sociology, scientific management, and, in general, methods of social control. James "is responding to another, unspoken, but more ominous source: the growth of a professionally administered social order. The coercive character of modernity is reflected in the ascendancy of social control as the governing concern of the social sciences. . . . The Jamesian pluralist diving back into the flux seems as far from Taylorized efficiency as possible." Posnock, *The Trial of Curiosity: Henry James, William James and the Challenge of Modernity* (Oxford: Oxford University Press, 1991), pp. 110–116.

153. Carpenter, *Principles of Mental Physiology* (1886), pp. 134–135. Many of the pedagogical and disciplinary imperatives in Carpenter's work remained effective for over four decades, as can be seen, for example, in the work of James's Harvard colleague and rival, Hugo Munsterberg, *Psychology and the Teacher* (New York: D. Appleton, 1909), esp. pp. 157–171.

immobilization of a “subject effect” and an ephemeral congealing of a changing sensory manifold into a cohesive real world. Ribot acutely observed that attention “is an exceptional, abnormal state, which cannot last a long time, for the reason that it is in contradiction to the basic condition of psychic life, namely change.”<sup>154</sup> Helmholtz earlier had similarly noted: “An equilibrium of the attention, persistent for any length of time, is under no circumstances attainable. The natural tendency of attention when left to itself is to wander to ever new things.”<sup>155</sup> By the 1880s such an understanding had become pervasive, and the remarks of psychologist and aesthician Theodor Lipps are typical: “Again and again, it is a matter of experience that a part we intend to hold fast, and which we even think we are holding in the grip of attention, will slip away from our grasp, with something else taking its place. Thus we succeed with difficulty or not at all, in the certain apprehension or isolation of a perceptual content.”<sup>156</sup> Attention, then, was what prevented our perception from being an incoherent flood of sensations, yet research showed it to be an undependable defense against such disorder. It was an indispensable component of the “normal” and “rational” subject of late nineteenth-century industrial society, yet had a disturbing proximity to “pathological” and “irrational” effects. In spite of the importance of attention in the organization and modernization of production and consumption, most studies implied that attention rendered perceptual experience into something labile, continually undergoing change, and finally dissipative.<sup>157</sup> From the classical model of a mental stabilization of perceptions into a fixed mold, attention in the nineteenth century effectively became a

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154. Ribot, *The Psychology of Attention*, p. 2.

155. Hermann Helmholtz, quoted in James, *Principles of Psychology*, vol. 1, p. 422. See also Marillier, “Remarques sur le mecanisme de l’attention,” pp. 569–570.

156. Theodor Lipps, *Psychological Studies* (1885), trans. Herbert C. Sanborn (Baltimore: Williams and Wilkins, 1926), p. 89.

157. “The successive movement of attention over a number of objects appears accordingly to be a *periodic* process, made up of a number of separate acts of apperception following one another. Such a *periodic rise and fall of attention* can under favorable conditions be directly demonstrated. . . . Thus, if we allow a weak continuous impression to act on a sense organ and remove as far as possible all other stimuli, it will be observed when the attention is concentrated upon this impression that at certain generally irregular intervals, the impression becomes for a short time indistinct, or even appears to fade out entirely, only to reappear the next moment.” Wilhelm Wundt, *Outlines of Psychology* (1893), 4th rev. ed., trans. Charles H. Judd (Leipzig: Engelmann, 1902), p. 233; emphasis in original. Angelo Mosso noted that “attention involves modifications of a complex nature” involving periodic oscillations. “Experiments have shown that attention is not a continuous but an intermittent process proceeding almost by bounds.” *Fatigue*, pp. 183–184. Attention is described as a periodic, wavelike form in Thaddeus Bolton, “Rhythm,” *American Journal of Psychology* 6, no. 2 (January 1894), pp. 145–238. An account of attention also could have certain affinities with Hegel’s description of “sense-certainty” as a self-canceling form of apprehension, as a rhythm of “appearing” and “melting away.” See G. W. F. Hegel, *The Phenomenology of Mind*, trans. J. B. Baillie (New York: Harper and Row, 1967), pp. 149–161.

continuum of variation, a temporal modulation, and it was repeatedly described as having a rhythmic or wavelike character.<sup>158</sup> Though it appeared to hold the possibility of building up stable and orderly (though not necessarily truthful) cognitions, it also contained within itself uncontrollable forces which would put that organized world in jeopardy. Within the general epistemological crisis of the late nineteenth century, attention became a makeshift and inadequate simulation of an Archimedean point of stability from which consciousness could know the world. Rather than perceptual fixity and the certainty of presence, it opened onto flux and absence within which subject and object had a scattered, provisional existence.<sup>159</sup>



Perhaps nowhere else in the late nineteenth century is the ambivalent status of attention as visible as in the social phenomenon of hypnosis. Hypnotism, for several decades, uneasily stood as an extreme model of a technology of attention. But even as it seemed to offer new possibilities of clinical power and medical benefits, it disclosed the unsettling outlines of a subject whose uncertain makeup could evade both intellectual and institutional mastery.<sup>160</sup> Demonstrating so dramatically the precariousness and malleability of what had been thought of as consciousness, hypnosis posed an unprecedented challenge to the separability of psychological, physiological, and social factors.<sup>161</sup> As experimentation of many kinds in the late nineteenth century seemed to show, the border between a focused normative attentiveness and a hypnotic trance was indistinct. Hypnosis (a word that denotes both a psychical state and specific practices for inducing such

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158. On the distinction between mold and modulation see Gilbert Simondon, *L'individu et sa genèse psycho-biologique* (Paris: Presses universitaires de France, 1964), pp. 39–44. See the related discussion in Gilles Deleuze, *The Fold: Leibniz and the Baroque*, trans. Tom Conley (Minneapolis: University of Minnesota Press, 1993), pp. 19–21.

159. For Henry Adams, in the late 1890s, the modern subject was one whom “normal thought was dispersion, sleep, dream, inconsequence; the simultaneous action of different thought-centers without central control.” The human mind, he wrote, passed “half its known life in the mental chaos of sleep; victim even when awake, to its own ill-adjustment, to disease, to age, to external suggestion, to nature’s compulsion; doubting its sensations, and, in the last resort, trusting only to instruments and averages.” Henry Adams, *The Education of Henry Adams* (Boston: Houghton Mifflin, 1973), pp. 434, 460.

160. The pervasive optimism about hypnosis as a cure-all is evident in a typical medical handbook on the subject: “I rejoice that I have lived to see the triumph of chemistry, of surgery, of physiological and pathological research; but research on hypnotism promises discoveries greater than all these; those which will reveal the laws which govern and control the actions, feelings, and thoughts.” James R. Cocke, *Hypnotism: How It Is Done, Its Uses and Dangers* (Boston: Arena, 1894), p. 93.

161. To the question of what hypnosis is, Isabelle Stengers replies: “Essentially we know nothing about it. . . . We still speak of hypnosis without being able to distinguish between ‘music hall’ hypnosis, the different forms of ritually organized trance, the murderous hypnosis associated with Hitler or Khomeini, the stupefied hypnosis surely induced by television, and hypnosis done under experimental protocol.” Stengers, “The Deceptions of Power: Psychoanalysis and Hypnosis,” *Sub-Stance* 62–63 (1990), pp. 81–91.

a state) was often described as an intense refocusing and narrowing of attention, accompanied by inhibition of motor responses. Research, beginning with James Braid in the 1840s and continuing with Auguste Liebeault in the 1860s, explored the apparent and paradoxical proximity of both hypnosis and attention to sleep.<sup>162</sup> Disturbing questions were implicit in such observations: how could attention, which was posed as a bulwark against dissociation, a guarantee of the cohesiveness of consciousness and its relation to the world, a tool of productivity, be so immediately adjacent to states that implied a loss of self-possession, of conscious affect and agency?

By the late nineteenth century, hypnosis was generally determined to be at one extreme of a continuum of attention, involving an intensification of focal concentration with a relative suspension of peripheral awareness. G. Stanley Hall, writing in 1883, is typical in his assertion that “most of the phenomena to which we give the name of hypnotism” are due not to mesmeric forces “but only to an unusual degree of ‘concentration of Attention,’ variously directed by suggestions of many kinds.”<sup>163</sup> It was understood that what one perceives under hypnosis is lucid and detailed but that the range of awareness is extremely narrow. In fact, the most common techniques for inducing a hypnotic trance were forms of focalization, that is, of concentrating one’s attention on some specific object, often a bright, luminous point, but sometimes an idea or simply the rhythm of one’s own breathing or heartbeat. Attention was thus shown to be the gateway to some vaguely understood but qualitatively different state from what had been understood as consciousness.<sup>164</sup> And the well-known debates of the 1880s about what this enigmatic state denoted: was it, as J.-M. Charcot and his followers at the Salpêtrière believed, a sign of some underlying somatic disorder, or was it, as Hippolyte Bernheim and others insisted, an exaggeration of a fully normal state of suggestibility?

The work of Liebeault, which was responsible for the formation of the so-called school of Nancy in the 1880s, postulated attention as the most important and creative element of psychic life; it was a mobile dynamic force responsible

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162. James Braid, *Neurypnology or the Rationale of Nervous Sleep* (London: J. Churchill, 1843); Auguste Liebeault, *Le sommeil provoqué et les états analogues* (Paris: Doin, 1889); and Charles Richet, “Du somnambulisme provoqué,” *Journal de l’anatomie et de la physiologie normales et pathologiques* 11 (1875), pp. 348–378.

163. Hall, “Reaction-Time and Attention in the Hypnotic State,” p. 170. Hall emphasizes the idea of an uncertain continuum of attentive states: “Upon the Attention-hypothesis a great number of neural disorders are seen to be only exaggerations of states familiar to every normal mind.”

164. See, for example, the survey of techniques of hypnotic induction in Albert Moll, *Hypnotism* (1889), new trans. (New York: Scribner’s, 1899), pp. 31–64.



*Demonstration of Bernheim's method of hypnotic induction, 1890s.*

for all perception and motor activity. Liebeault believed that hypnotic induction produced a sleeplike state in which attention was immobilized or isolated. The state he called *somnambulisme provoqué* was for him a drastic reorientation of attentiveness, which could be produced by a set of relatively simple techniques. Bernheim's redeployment of Liebeault's work into a more systematic clinical practice included a method of induction called "fixed attention," in which sustained looking at a single point or object produced a dramatic reorganization of consciousness. The enduring importance of the Nancy school was to have situated hypnotic phenomena within the terrain of *normal* perception, rather than as symptoms of illness or weakness. Bernheim would repeatedly make this general claim: "I have endeavored to show that hypnotism does not really create a new condition: there is nothing in induced sleep which may not occur in the waking condition, in a rudimentary degree in many cases, but in some to an equal extent."<sup>165</sup>

Hypnosis also made clear that attentive states could be delineated in terms of absorption, dissociation, and suggestibility. The link between attention and dissociation is particularly significant in that it provides a way of understanding how

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165. Hippolyte Bernheim, *Hypnosis and Suggestion in Psychotherapy* (1884), trans. Christian Herter (New York: Aronson, 1973), p. 179. Compare *ibid.*, pp. 149–150: "The hypnotic condition is not an abnormal one, it does not create new functions nor extraordinary phenomena; it develops those which are produced in the waking condition. . . . Perhaps in reality there are neither one nor two states of consciousness, but infinitely varying states. All degrees of variation may exist between the perfect waking condition, and the condition of perfect concentration which constitutes somnambulism."

attentiveness can be, in the words of a recent researcher, a matter of the “mental separation of components of experience that would otherwise be processed together.”<sup>166</sup> This might involve discontinuities of various kinds between motor, sensory, and psychological experiences. William James was one of many in the 1880s who investigated the dissociations that could occur in either absorbed or hypnotic states, in which two distinct mental processes could occur simultaneously.<sup>167</sup> Perhaps most significantly, research in this area, beginning as early as Mesmer and continuing throughout the nineteenth century, disclosed that even as hypnosis involved a narrowing of attention, it paradoxically also enabled subjects to *expand* their awareness, in effect to see and remember *more* (as modern-day police departments and others have learned).<sup>168</sup> It revealed itself in many instances to be a means of memory recovery so efficient that it is no wonder it so scandalized psychoanalysis, burdened with its more glacial therapeutic time frame.

As a historical phenomenon, hypnosis also has to be seen within a larger field of rationalizing processes. Just as photographic and cinematic innovations in the 1880s and 1890s defined the terms of an automation of perception, hypnosis too (in spite of the paradoxes it revealed) was a technology that offered at least the fantasy of rendering behavior both automatic and predictable.<sup>169</sup> Even though

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166. David Spiegel, “Neurophysiological Correlates of Hypnosis and Dissociation,” *Journal of Neuropsychiatry and Clinical Neuroscience* 3 (1991), p. 440: “Hypnosis is at one extreme of the continuum of attention, involving an enhancement in focal concentration with a relative suspension of peripheral awareness. Hypnotic concentration is like looking through a telephoto lens in a camera. What one sees is detailed, but the range of vision is narrow. . . . A main component of the hypnotic state is suggestibility, which is heightened responsiveness to social cues, leading to an enhanced tendency to comply with hypnotic instructions. This represents not a loss of will but rather a suspension of critical judgment because of the intense absorption of the hypnotic state. Hypnotic instructions are acted upon automatically and often are mistakenly perceived as internally generated.”

167. See Eugene Taylor, *William James on Exceptional Mental States: The 1896 Lowell Lectures* (Amherst: University of Massachusetts Press, 1983), pp. 15–34; and John F. Kihlstrom and Kevin M. McConkey, “William James and Hypnosis: A Centennial Reflection,” *Psychological Science* 1, no. 3 (May 1990), pp. 174–178.

168. For example, Schelling, around 1812, wrote about how “Mesmeric sleep” constituted a breakdown of the unity of wakeful states, releasing the possibility of “the development of visionary talent in general.” He speculated on the continuity and “gradations” between apparently distinct states: “For many reasons, it seems to me as if the so-called mesmeric sleep has been distinguished much too sharply from ordinary sleep.” Schelling, *The Ages of the World*, trans. Frederick deWolfe Bolman (New York: Columbia University Press, 1942), p. 181.

169. See, for example, the account of hypnosis as a practical social technology of attention in H. G. Wells, *When the Sleeper Wakes* (1899). In this novel set in the twenty-second century, “the practical applications of psychology were now in general use” deriving from the work of “Fechner, Liebeault, William James” and others. “Little children of the labouring class, so soon as they were of sufficient age to be hypnotized, were thus converted into beautifully punctual and trustworthy machine minds. . . . A sort of psychic surgery was, in fact, in general use.” *Three Prophetic Novels*, ed. E. F. Bleiler (New York: Dover, 1960), p. 124.



Sven Richard Bergh, *Hypnotic Seance*, 1887.

the hypnotic trance was a profoundly ambiguous state, it became a powerful image of a docility produced according to specific psycho-medical procedures. But by the early twentieth century hypnosis abruptly disappeared from the mainstream of institutional practice and research. The anxious renunciation of hypnosis by Freud, Bernheim, and others was only one of the more widely known signs of this shift.<sup>170</sup> There was an astonishing cultural reversal from the great heyday of hypnosis in the late 1880s, when across Europe and North America it seemed a therapy that promised unlimited benefits, to the turn of the century, when it had become an embarrassment to its former advocates.<sup>171</sup> The *Revue de l'Hypnotisme*

170. On Freud's abandonment of hypnotic technique, see Léon Chertok and Isabelle Stengers, *A Critique of Psychoanalytic Reason: Hypnosis as a Scientific Problem from Lavoisier to Lacan*, trans. Martha Noel Evans (Stanford: Stanford University Press, 1992), esp. pp. 36–45.

171. Pierre Janet (1859–1947) was one of the few French psychologists who unapologetically continued to include hypnosis at the heart of his therapeutic project well into the twentieth century. Today one frequently encounters a refusal, which amounts to historical falsification, to acknowledge that hypnosis in the late 1880s and early 1890s was normative institutional science. Thus, for example, the inaccurate statement by historian Mark S. Micale that “ages of high scientism have typically spawned counter-cultures: mesmerism during the late Enlightenment, faith-healing and hypnotism at the turn of the last century, our own New Age psychologies and alternative medicines,” in his “Strange Signs of the Times,” *Times Literary Supplement*, May 16, 1997, pp. 6–7. This currently fashionable opposition of high science and peripheral pseudo-science imposes a dubious model on a historical period when

*experimental*, founded in 1886, had by the early twentieth century changed its name to *Revue de Psychothérapie et de Psychologie appliquée*.

Hypnosis so powerfully implied excessive possibilities of perceptual and cognitive control, regardless of whether these were empirically proven, that it became incompatible with humanist assumptions about the autonomous and voluntaristic character of human subjectivity (even though psychoanalysis was to have its own incompatibilities with such assumptions).<sup>172</sup> Hypnosis and suggestion were soon derided as practices directed toward automatic processes (those inferior, more instinctual, and continuous with animality) rather than a rational procedure eliciting the patient's conscious participation and will power. Bernheim's vivid characterization of hypnosis as "mental decapitation" was typical of images around which such anxieties later developed.<sup>173</sup> There were also numerous, highly publicized court cases (most of them clearly fraudulent) concerning individuals who claimed to have been coerced by hypnosis into sexual or criminal behavior against their will.<sup>174</sup> It was not that inquiry and research on the possible control of human subjects ceased, in fact far from it; it was that ideologically these areas could not be acknowledged as a constitutive part of the human sciences. The disavowal of

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such clear-cut distinctions did not exist. For example, the postulation of the existence of the luminiferous ether in physics had a complex and shifting relation of mutual exchange with a huge range of ideas about "spiritism" and "action at a distance."

172. Modern suspicion of hypnosis begins with Hegel's reflections on Mesmer and "magnetic states," which Hegel saw as an illness: "But if my psychical life separates itself from my intellectual consciousness and takes over its function, I forfeit my freedom which is rooted in that consciousness, I lose the ability to protect myself from an alien power, in fact become subjected to it. . . . In this magical relationship, the main point is that one individual acts on another whose will is *weaker* and *less independent*. Therefore very powerful natures exercise the greatest power over weak ones, a power often so irresistible that the latter can be put into a magnetic trance by the former whether they wish it or not." *Hegel's Philosophy of Mind*, pp. 116–117. Mesmerism, for Hegel, served as a figure for a specific moment of *self-differentiation* in a larger account of the development of consciousness.

173. The position of hypnosis within a popular imagination is suggested in Strindberg's 1887 play *The Father*, about power relations within a disintegrating marriage, in which the husband reproaches his spouse: "If I was awake, you could hypnotize me so that I could neither see nor hear, but only obey; you could give me a raw potato and convince me that it was a peach; you could compel me to admire your most childish remark as if it were a flash of genius; you could have led me into crime, and even into petty meanness." Strindberg, *Three Plays*, trans. Peter Watts (Harmondsworth: Penguin, 1958), pp. 58–59. There was an extensive popular literature that presented disturbing images of hypnosis, including the anti-Semitic *Trilby* (New York: Harper and Brothers, 1894) by the British writer and illustrator George Du Maurier. In France such works included William Mintorn, *La somnambule* (Paris: Ghio, 1880); the pseudonymous novella by psychologist Charles Richet, published as Charles Epeyre, "Soeur Marthe," *Revue des Deux Mondes* 93 (May 15, 1889), pp. 384–431; and the well-known short story "La Horla" (1886) by Guy de Maupassant. Hypnotism is a tool both of the forces of evil and of scientific rationality in Bram Stoker's *Dracula* (1897).

174. See, for example, the discussion in J. Liegeois, *De la suggestion et du somnambulisme dans leurs rapports avec la jurisprudence et la médecine légale* (Paris: Doin, 1889); and Georges Gilles de la Tourette, *L'hypnotisme et les états analogues au point de vue medico-legal* (Paris: E. Plon, 1887).

hypnosis occurred in spite of the enormous amount of clinical evidence indicating that hypnotized subjects, in an essential way, preserved their freedom. Since Freud's reversal, hypnosis has continued to be a culturally disturbing phenomenon precisely because it resists scientific mastery or rationalization, rather than, as was often asserted, because it was "an assault on the patient's dignity."<sup>175</sup> As a model of power relations, hypnosis is irredeemably naive, and it became increasingly useless and parodic as it overlapped with the early cinematic images of Caligari and Mabuse and then with the alleged capabilities of real-life despots. In fact, most trance states are deeply irreconcilable with the functioning of productive or regulating institutions. But the very preposterousness of the hypnotic model, in its hyperbolic form, resulted in prohibiting or at least discouraging analysis of other less extreme kinds of power relations and effects (including the problem of attention), of stigmatizing critical positions which imply that volitional human action can in some way be modified by external forces.<sup>176</sup>

Television especially, in a variety of forms, emerged as the most pervasive and efficient system for the management of attention, and it has become so fully integrated into social and subjective life that certain kinds of statements about television (for example, about addiction, habit, persuasion, and control) are in a sense unspeakable, effectively excluded from public discourse. To speak of contemporary collective subjects in terms of effects of passivity and influence is still generally anathema.<sup>177</sup> As Paul Virilio has noted, even to raise the possibility of "modes of

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175. Stengers, "The Deceptions of Power," pp. 81–91: "Suggestion frightens judges when they don't want to be instruments of *undisguised* power. Hypnosis not only disappointed Freud, but all who turned their attention to it in order to judge it, to measure its effects, to identify its invariables. We don't know much about hypnosis or suggestion because they point to something against which the power of judgment must define itself." See also the discussion of hypnosis in Julian Jaynes's unjustly proscribed *The Origins of Consciousness in the Breakdown of the Bicameral Mind* (Boston: Houghton Mifflin, 1976), p. 379: "For hypnosis is the black sheep of the family of problems which constitute psychology. It wanders in and out of carnivals and clinics and village halls like an unwanted anomaly. It never seems to straighten up and resolve itself into the firmer proprieties of scientific theory. Indeed, its very possibility seems a denial of our immediate ideas about conscious self-control on the one hand, and our scientific idea about personality on the other. Yet, it should be conspicuous that any theory of consciousness and its origin, if it is to be responsible, *must* face the difficulty of this deviant type of behavioral control."

176. Though obviously dated now, see the valuable overview of twentieth-century attempts at developing behavior management technologies in Perry London, *Behavior Control* (New York: Harper and Row, 1969).

177. On the importance of low-level effects of suggestion and influence in contemporary global culture, see Daniel Bounoux, "L'impense de la communication," in Daniel Bounoux, ed., *La suggestion: hypnose, influence, transe* (Paris: Colloque de Cerisy/Les Empêcheurs de Penser en Rond, 1991), pp. 297–314. He outlines the role that suggestion plays in a society of communication, "including effects of fashion, mimesis, mass psychology, media-related contagions, and influences of all kinds," and how these "oblige us to revise our notions of individuality and of consciousness."

mass manipulation” is not simply tactless and indiscreet, it is “to violate a state secret of the same order as a military secret.”<sup>178</sup> There is usually a tacit a priori conviction that television viewers constitute a hypothetical community of rational and volitional human subjects. The contrary position, that human subjects have determinate psychophysiological capacities and functions that might be susceptible to technological management, has been the underpinning of institutional strategies and practices (regardless of the relative effectiveness of such strategies) for over a hundred years, even as it must be disavowed by so-called critics of those same institutions.<sup>179</sup>



If attention has persisted as a problem over the last century, I do not mean to imply that arrangements of power or control (with which attention is ambivalently intertwined) have in any sense been invariable or enduring. On the contrary, one of the reasons attention continues to be an issue is the way in which shifting organizations of power and changing models of subjectification have, throughout the twentieth century, demanded reciprocal refashionings of attentive behavior. A task outside the scope of this book would be to chart the mutating relationship of attention with various systems, institutions, and machinic relations, and to identify with

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178. Paul Virilio, *The Vision Machine* (1988), trans. Julie Rose (Bloomington: Indiana University Press, 1994), p. 23.

179. Whether or not attention actually can be controlled or managed, it is important to recognize the massive material and intellectual resources that have been deployed on the *assumption* that it can be controlled for specific ends. Beginning as early as the 1880s, empirical studies of attention were used to modify arrangements of labor in workplaces as a way of maximizing productivity, something that has continued into present-day electronic work environments. By the very early twentieth century the management of consumption became equally important, and a whole arena of psychological testing opened up in order to determine methods for effectively controlling attention in advertising. By the teens an enormous number of studies had been done in both Europe and North America. See, for example, Walter D. Scott, *The Psychology of Advertising* (Boston: Small, Maynard & Co, 1908); Edward K. Strong, “The Relative Merit of Advertisements: A Psychological and Statistical Study,” *Archives of Psychology* 17 (July 1911); H. F. Adams, “Adequacy of the Laboratory Test in Advertising,” *Psychological Review* 22, no. 5 (September 1915), 403–422; “The Class Experiment in Psychology with Advertisements as Materials,” *Journal of Educational Psychology* 3 (1912), pp. 1–17; Howard K. Nixon, *Attention and Interest in Advertising* (New York: Archives of Psychology, 1924). For typical mid-twentieth-century work, see the chapter “Capturing Attention” in Darrell Lucas and Stuart H. Britt, *Advertising Psychology and Research* (New York: McGraw-Hill, 1950). Today such research continues unabated on a vast scale, working, for example, with detailed monitoring of electrical activity in the brain in relation to attention. See, for example, M. Rothschild et al., “EEG Activity and the Processing of Television Commercials,” *Communication Research* 13 (1986), pp. 182–219. At the same time the use of psychochemicals to enhance attentiveness is being studied in many different ways. See, for example, B. S. Oken et al., “Pharmacologically Induced Changes in Arousal: Effects on Behavioral and Electrophysiologic Measures of Alertness and Attention,” *Electroencephalography and Clinical Neurophysiology* 95, no. 5 (November 1995), pp. 359–371. See also the range of work represented in Patricia Cafferata and Alice Tybout, eds., *Cognitive and Affective Response to Advertising* (Lexington, Mass.: Lexington Books, 1989). These are a few of the literally thousands of related studies published every year.

specificity meaningful continuities between the late nineteenth century and our time. This would also involve examining the widely different ways in which attention has been both a strategy of control and a locus of resistance and drift, or more often an amalgam of both. The present work attempts to consider some of the elements that make up the early part of that larger history, which we all have a stake in understanding.

I have already suggested the ways in which attention took shape as an object in relation to the concrete organization and management of education and labor. In this sense it is inseparable from the operation of what Foucault has described as “disciplinary” institutions, but as an inversion of his panoptic model in which the subject is *an object* of attention and surveillance. Hence the modern notion of attention is a sign of reconfigurations of those disciplinary mechanisms. If disciplinary society was originally constituted around procedures through which the body was literally confined, physically isolated and regimented, or set in place at work, Foucault makes clear that these were but the first relatively crude experiments in an ongoing process of perfecting and refining such mechanisms. By the early twentieth century, the attentive subject is part of an *internalization* of disciplinary imperatives in which individuals are made more directly responsible for their own efficient or profitable utilization within various social arrangements. And certainly the attempts in the late nineteenth century to determine the limits of a “normative” attentiveness were part of this transformation.

But if attention can be situated within Foucault’s particular account of Western modernization, I will also link it to Guy Debord’s theorization of a “society of the spectacle.”<sup>180</sup> Debord’s work and Foucault’s might seem remote from each other, and certainly the two stood for very different kinds of thinking, of critique, and of political intervention.<sup>181</sup> Despite Foucault’s specific dismissal of the idea of spectacle as relevant to considerations of modern society, there are some important points of overlap between the models of a society of discipline and of spectacle. Debord’s work is often associated with the more facile meanings of his book’s title, disregarding an essential characterization of the society of the spectacle: rather than emphasizing the effects of mass media and its visual imagery, Debord

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180. It should be remembered that Guy Debord describes spectacle with the phrase *comportement hypnotique* (trancelike behavior) in the opening pages of his *Societe du spectacle*: see *The Society of the Spectacle* (1967), trans. Donald Nicholson-Smith (New York: Zone Books, 1994), p. 17.

181. Even though Debord’s *Society of the Spectacle* was one the most influential challenges in the 1960s to established Marxist positions, it nonetheless operates, at least implicitly, within a Hegelian intellectual terrain to which Foucault was adamantly hostile.

insists that spectacle is (in a loose rephrasing of Tönnies's *Gesellschaft*) the development of a technology of separation. It is the inevitable consequence of capitalism's "restructuring of society without community."<sup>182</sup> Debord's account of spectacle as multiple strategies of isolation parallels those outlined by Foucault in *Discipline and Punish*: the production of docile subjects, or more specifically the reduction of the body as a political force. And Max Weber's identification of "the inner isolation of the individual" as a foundation of capitalist modernity stands behind both of these thinkers.<sup>183</sup> Also, Debord and Foucault both outline *diffuse* mechanisms of power, through which imperatives of normalization or conformity permeate most layers of social activity and become subjectively internalized. It is in this sense that the management of attention, whether through early mass-cultural forms in the late nineteenth century or later through the television set or the computer monitor (at least in their overwhelmingly pervasive forms), has little to do with the visual contents of these screens and far more with a larger strategy of the individual.<sup>184</sup> Spectacle is not primarily concerned with a *looking at* images but rather with the construction of conditions that individuate, immobilize, and separate subjects, even within a world in which mobility and circulation are ubiquitous.<sup>185</sup> In this way attention becomes key to the operation of noncoercive forms of power. This is why it is not inappropriate to conflate seemingly different optical or technological objects: they are similarly about arrangements of bodies in space, techniques of isolation, cellularization, and above all separation. Spectacle is not

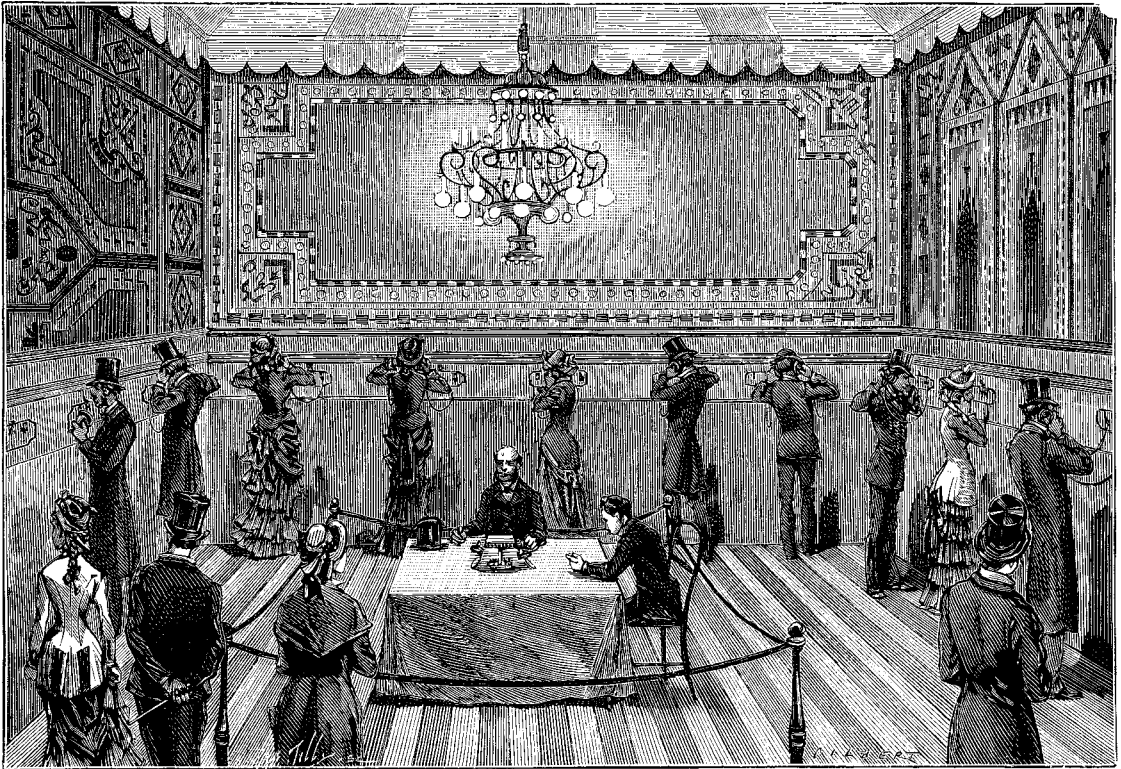
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182. Debord, *Society of the Spectacle*, pp. 121, 137. The necessity of destroying the possibility of community was part of the technology of attention already in the early twentieth century: "But various factors in rearranging their establishments according to the principles of scientific management have changed the position of the workmen so that conversations become more difficult or impossible. The result reported seems to be everywhere a significant increase of production. The individual concentrates his mind on the task with an intensity which seems beyond his reach as long as the inner attitude is adjusted to social contact." Hugo Münsterberg, *Psychological and Industrial Efficiency* (Boston: Houghton Mifflin, 1913), p. 209.

183. Max Weber, *The Protestant Ethic and the Spirit of Capitalism* (1904), trans. Talcott Parsons (New York: Scribner's, 1958), p. 108. The work of Henri Lefebvre was directly significant for Debord: "Here we witness the conflict between a certain 'atomization' of life (unilaterally denounced a hundred times over) and an overorganization which hems life in, and doubtless requires it to be atomized as a necessary precondition. *The socialization of society* goes on unabated. As the networks of relations and communications get more dense, more effective, so at the same time the individual consciousness becomes increasingly isolated and unaware of 'others.' That is the level on which the contradiction operates." Lefebvre, *Introduction to Modernity* (1962), trans. John Moore (London: Verso, 1995), p. 190.

184. Raymond Williams situates television within a technological and economic logic of "mobile privatization," in his *Television: Technology and Cultural Form*, p. 26.

185. See the discussion of Debord and issues of distraction, distance, and separation in Hal Foster, *The Return of the Real* (Cambridge: MIT Press, 1996), pp. 218–220.



*Technologies of separation. Telephonic listening room at the Exposition d'Electricite, Paris, 1881.*

an optics of power but an architecture. Television and the personal computer, even as they are now converging toward a single machinic functioning, are antinomadic procedures that fix and *striate*. They are methods for the management of attention that use partitioning and sedentarization, rendering bodies controllable and useful simultaneously, even as they simulate the illusion of choices and “interactivity.”

This is certainly not to minimize the need for historically analyzing specific and local interfaces of humans and machines. One of the most compelling assessments of the various human-machine composites is in the work of Gilles Deleuze and Felix Guattari. They distinguish several dominant historical models of how human beings have interfaced or been “subjected to machines or machinic systems.” Industrial capitalism, beginning in the nineteenth century, was one phase in which a human operator was linked to a machine as an exterior object. More recently, however, with cybernetic and informational machines, “the relation

between human and machine is based on internal, mutual communication, and no longer on usage or action.”<sup>186</sup> Deleuze (by himself) has proposed that during the last two decades there has been a modification of Foucault’s disciplinary societies into “societies of control,” in which the combination of a global market, information technology, and the irresistible imperative of “communication” produces continuous and unbounded effects of control.<sup>187</sup> I would stress that, however we label and characterize such historical shifts or social transformations within the last century, attention has continued to be integral to the subjects produced for a wide range of socio-technical machines, even as it simultaneously continues to be a potential site of breakdown or crisis in terms of the efficient operation of these machines. It is becoming clearer that a concurrence of panoptic techniques and attentive imperatives now functions reciprocally in many social locations.<sup>188</sup> The video display terminal, in particular, can stand for the effective fusion of surveillance and spectacle, as the screen is both the object of attention and yet capable of monitoring, recording, and cross-referencing attentive behavior for purposes of productivity or even, through the tracking of eye movement, for the accumulation of data on the specific paths, durations, and fixations of visual interest in relation to a flow of images and information. Attentive behavior in front of all kinds of screens is increasingly part of a continuous process of feedback and adjustment within what Foucault calls a “network of permanent observation.”<sup>189</sup>

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186. Gilles Deleuze and Felix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. Brian Massumi (Minneapolis: University of Minnesota Press, 1987), pp. 456–459: “Modern power is not at all reducible to the classical alternative ‘repression or ideology’ but implies processes of normalization, modulation, modeling, and information that bear on language, perception, desire, movement, etc. and which proceed by way of microassemblages.” For a related discussion of problems of subjectification in contemporary capitalism, see Michel Feher and Eric Alliez, “The Luster of Capital,” *Zone* 1–2 (1985), pp. 314–359.

187. See Deleuze’s essays “Control and Becoming” and “Postscript on Control Societies,” in his *Negotiations, 1972–1990*, trans. Martin Joughin (New York: Columbia University Press, 1995), pp. 169–182. His model of a “control society” has affinities with Guy Debord’s own revision of his original 1967 typologies of totalitarian “concentrated” and capitalist-consumer “diffuse” societies of spectacle into a single global “integrated” society of the spectacle, which he outlined in his *Comments on the Society of the Spectacle*, trans. Malcolm Imrie (London: Verso, 1990).

188. See the discussion of attention in Marie Winn, *The Plug-In Drug: Television, Children and the Family*, rev. ed. (New York: Penguin, 1985), p. 64: “Of course there are variations in the attention-getting and attention-sustaining powers of television images, many of which depend on such factors as the amount of movement present on the screen at any given moment, and the velocity of change from image to image. It is a bit chilling to consider that the producers of the most influential program for pre-school children, ‘Sesame Street,’ employed modern technology in the form of a ‘distractor’ machine to test each segment of their program to ensure that it would capture and hold the child’s attention to the highest degree possible.”

189. Michel Foucault, *Discipline and Punish* (1975), trans. Alan Sheridan (New York: Pantheon, 1977), p. 295. See D. N. Rodowick, “Reading the Figural,” *Camera Obscura* 24 (September 1990), p. 35: “The

At the same time, for every mutation in the construction of attentiveness there are parallel shifts in the shape of inattention, distraction, and states of “absent-mindedness.” New thresholds continually emerge at which an institutionally competent attentiveness veers into something vagrant, unfocused, something folded back against itself.<sup>190</sup> Because so many forms of a disciplinary attentiveness, especially since the early twentieth century, have entailed cognitively “processing” a stream of heterogeneous stimuli (whether film, radio, television, or cyberspace), the kind of swerves into inattentiveness increasingly have produced alternate experiences of dissociation, of temporalities that are not only dissimilar to but also fundamentally incompatible with capitalist patterns of flow and obsolescence. The daydream, which is an integral part of a continuum of attention, has always been a crucial but indeterminate part of the politics of everyday life. However, as Christian Metz and others have argued, in the twentieth century both film and television have entered into a “functional competition” with daydream.<sup>191</sup> Though its history will never be formally written, the daydream is nonetheless a domain of resistance internal to any system of routinization or coercion. Similarly, institutional models of attention based on imperatives of recognition, identity, and stabilization are never fully separate from nomadic models of attention that generate novelty, difference, and instability.

However, one feature of many contemporary technological arrangements is the imposition of a permanent low-level attentiveness that is maintained to varying degrees throughout large expanses of waking life. The later nineteenth century saw the onset of a relentless colonization of “free” or leisure time. Initially this was relatively scattered and partial in its effects, allowing oscillations between spectacular attentiveness and the free play of subjective absorptions. But at the end of the twentieth century, the loosely connected machinic network for electronic work,

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goals of interactive computing that are in the vanguard of research on new electronic media, while genuinely utopian, must nonetheless be questioned. For the dream of the individual’s absolute control over information is simultaneously the potentiality for absolute surveillance and the reification of private experience.”

190. Using the example of television, Felix Guattari suggests some of the heterogeneity of an attentive subjectivity: “When I watch television, I exist at the intersection 1) of a perpetual fascination provoked by the screen’s luminous animation which borders on the hypnotic 2) of a captive relation with the narrative content of the program, associated with a lateral awareness of surrounding events—water boiling on the stove, a child’s cry, the telephone . . . 3) of a world of fantasms occupying my daydreams. My feeling of personal identity is thus pulled in different directions. How can I maintain a relative sense of unicity, despite the diversity of components of subjectivation that pass through me? It’s a question of the refrain that fixes me in front of the screen.” Guattari, *Chaosmos: An Ethico-Aesthetic Paradigm*, trans. Paul Bains and Julian Pefanis (Bloomington: Indiana University Press, 1995), pp. 16–17.

191. Christian Metz, *The Imaginary Signifier*, trans. Celia Britton et al. (Bloomington: Indiana University Press, 1982), pp. 135–137.

communication, and consumption has not only demolished what little had remained of the distinction between leisure and labor but has come, in large arenas of Western social life, to determine how temporality is inhabited. Information and telematic systems simulate the possibility of meanderings and drift, but in fact they constitute modes of sedentarization, of separation in which the reception of stimuli and the standardization of response produce an unprecedented mixture of diffuse attentiveness and quasi-automatism, which can be maintained for remarkably long periods of time.<sup>192</sup> In these technological environments, it's questionable whether it is even meaningful to distinguish between conscious attention to one's actions and mechanical autoregulated patterns. Writing in the 1960s, Arthur Koestler described the "dimming of awareness" produced by repetitive experiences within homogeneous sensory milieus: "Automatised routines are self-regulating in the sense that their strategy is automatically guided by feedbacks from their environments, without the necessity of referring decisions to higher levels. They operate by closed feedback loops."<sup>193</sup> But what once might have been called reverie now most often takes place aligned with preset rhythms, images, speeds, and circuits that reinforce the irrelevance and dereliction of whatever is not compatible with their formats. Beyond the limits of the present study is the question of how and whether creative modes of trance, inattention, daydream, and fixation can flourish within the interstices of these circuits. It is particularly important now to determine what creative possibilities can be generated amid new technological forms of boredom.<sup>194</sup>

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192. For discussion of recent research on attention and automatic behavior, see Larry L. Jacoby et al., "Lectures for a Layperson: Methods for Revealing Unconscious Process," in Robert F. Bornstein and Thane S. Pittman, eds., *Perception without Awareness: Cognitive, Clinical and Social Perspectives* (New York: Guilford, 1992), pp. 81–122. The authors discuss automaticity as "performance under conditions of divided attention," in which automatic behavior "is not a characteristic of stimulus driven processing but, rather, is an emergent property of the exercise of specific skills in an environment." See also Cathleen M. Moore and Howard Egeth, "Perception without Awareness: Evidence of Grouping under Conditions of Inattention," *Journal of Experimental Psychology: Human Perception and Performance* 23, no. 2 (April 1997), pp. 339–352; and Daniel Kahneman and Anne Treisman, "Changing Views of Attention and Automaticity," in Parasuraman and Davies, eds., *Varieties of Attention*, pp. 29–62.

193. Arthur Koestler, *The Ghost in the Machine* (New York: Macmillan, 1967), p. 207. There were, for example, attempts to evaluate the automatic behavior that accompanied the installation of the interstate highway system after World War II, when monotonous and uninterrupted driving conditions produced trancelike states in drivers but did not interfere with their ability to perform various mechanical tasks. See Griffith W. Williams, "Highway Hypnosis: An Hypothesis," in Ronald E. Shor and Martin T. Orne, eds., *The Nature of Hypnosis: Selected Basic Readings* (New York: Holt, Rhinehart, 1965), pp. 482–490.

194. On the historical construction of modern boredom, see Patrice Petro, "After Shock/Between Boredom and History," in Patrice Petro, ed., *Fugitive Images: From Photography to Video* (Bloomington: Indiana University Press, 1995), pp. 265–284. See also Joseph Brodsky, "In Praise of Boredom," in his *On Grief and Reason* (New York: Farrar Straus, 1995), pp. 104–113.

Having thus briefly touched on some of the stakes in contemporary constructions of attentive perception, I want to return to the late nineteenth century and begin a much more local consideration of the paradoxes implicit in a newly modernized attentiveness. Working through a very different set of objects from those of this chapter, I will trace how normative conceptions of attention intersected with problems of cognitive and perceptual *synthesis*. At the same time I will examine how notions of subjective attentiveness first began to overlap with the idea of *automatic* behavior and functioning, in terms of the perceptual breakdowns or dissociations that coincide with sustained or fixed attentive experiences. The issue of the automatic is crucial within the specifically modern problem of attention: it poses the notion of absorbed states that are no longer related to an *interiorization* of the subject, to an intensification of a sense of selfhood. The inwardness of what Hegel called romanticism is not so much exceeded here as it is paradoxically turned inside out, into a condition of externalization: attention as a depthless interface simulates and displaces what once might have been autonomous states of self-reflection or a *sens intime*. The logic of spectacle prescribes the production of separate, isolated, but not introspective individuals.

TWO  
1879: Unbinding Vision

*With a glance I shall gather up the virginal absence scattered through this solitude and steal away with it; just as, in memory of a special site, we pick one of those magical, still unopened water-lilies which suddenly springs up there and enclose, in their deep white, a nameless nothingness made of unbroken reveries, of happiness never to be—made of my breathing, now, as it stops for fear that she may show herself.*

—Stéphane Mallarmé,  
“The White Water-Lily”

*Two or three times already, when everyone else was getting ready to leave, we had seen a man of large stature, very muscular, with regular features and a grizzled beard, come in and sit down at a table, where his pensive gaze remained fixed with concentrated attention upon the void. One evening, on asking our landlord who this obscure, solitary and belated diner was, “What!” he exclaimed, “do you mean to say you don’t know the famous painter Elstir?”*

—Marcel Proust,  
*Within a Budding Grove*