ANNALS OF SCIENCE, 60 (October, 2003), 437–458

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## Philosophical Aspects of Science

J. CRARY, *Suspensions of Perception: Attention, Spectacle, and Modern Culture*. Cambridge, MA: MIT Press, 1999. ix + 397 pp. $39.95. ISBN 0-262-03265-0.

Attention is en vogue. Contemporary media experts, information technologists, and Internet traders understand very well that it is not sufficient to count on the curiosity of consumers with good will. Since the spectrum of visual stimuli and entertainment, material and non-material goods has become so vast and diverse, curiosity and fascination with the new are no longer at stake, if the problem is how to acquire and manage more and more information in shorter and shorter periods of time. In this situation, attention has become a central focus of interest. Attention is so precious and expensive because it cannot be increased at one's discretion and because it is the target for anyone who wants to 'sell' goods, ideas, knowledge, ideology, etc. Authors such as Georg Franck speak of an 'economy of attention' and argue that it stands with equal rights, analogous to an economy of money. We are confronted with a situation in which it is more and more complicated to decide how to invest one's own attention and how to evoke the attention of others. Consequently Franck calls for a new 'ethics of attention'.[1] It is a truism that this condition of the (post)-modern individual is inseparably linked to the conditions of information technology and media that surround us. The length of items on television has regulated our visual attention, the permanent threat of mobile phones has affected our capacity for concentration in various social situations, and the use of computers inevitably trains us to bring our own attention and speed of response to correspond to the commands and functions of the machine.

Jonathan Crary is fully aware of the current importance of attention. In a brief and illuminating reflection on the so-called 'attention deficit disorder', for example, he argues that it is nonsense to pathologize certain forms of behaviour 'in a culture that is so relentlessly founded on a short attention span, on the logic of nonsequitur, on perceptual overload' (p. 36). Crary's exhaustive and admirably erudite history of attention in modernity is—although it only covers the relatively short period of time between the 1870s and the 1910s—in fact a long argument that current patterns and mechanisms of attention are to be understood as a consequence of modern transformations of perception and of attention in the nineteenth century. These transformations are inseparably interwoven with scientific, technological, economic, and social changes, but the world of modernist painting is the main stage on which Crary displays and exemplifies his argument.

Theorists of modernity such as Walter Benjamin, Siegfried Kracauer, and Georg Simmel have described the difficult situation of the modern subject in the techno-industrial world as a biased relationship. Simmel, for example, described a rapid growth of the 'objective mind' in law, technology, science, art, and everyday life to which the individuals reacted with a decrease of culture, in particular with hindsight to cultivation, attention, and sensibility. The 'acceleration of nervous life' ('Steigerung des Nervenlebens'), which results from the permanent change of inner and outer impressions, has led to 'blaséness' ('Blasiertheit') and distraction, so that the differences between things and phenomena are no longer perceived.[2] Similarly, Benjamin argued that attention and distraction are two opposite poles and that distraction is the appropriate reaction of the modern urban individual.

This modern legacy becomes the starting point for Crary in two respects, firstly because it implies a historiographical and methodological point and secondly because the historicity

*Annals of Science* ISSN 0003-3790 print/ISSN 1464-505X online © 2003 Taylor & Francis Ltd
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of attention itself is at stake. First, Crary follows Simmel's claim, according to which historical transformations occur more or less at the same time in the arts and sciences, in technology and everyday life. By juxtaposing various historical events that seem to be quite distant from one another at first sight, a panorama of an epoch emerges. In this scenario, it is not necessary to prove specific relations between these fields with the aid of philology. To be sure, this is not a post-modern invention. Benjamin's fragmentary 'Arcades Project' and Dolf Sternberger's 'Panorama des 19. Jahrhunderts' from 1937 are composed exactly in this way. Crary does not organize his book around Parisian arcades or the panorama but around multiple historical facets of attention. After a more general introduction on the historical development of attention, he focuses on three important paintings, to which he devotes one large chapter each: Edouard Manet's *In the Conservatory* from 1879, Georges Seurat's *Parade de cirque* from 1888, and Paul Cézanne's *Pines and Rocks* from 1900. I feel unable to summarize these chapters even roughly, since they all start from a careful description of the paintings and then embark on extensive intellectual excursions which one might characterize as endless chains of associations. Crary describes his method as assuming a 'simultaneous but autonomous coexistence of disparate cultural artifacts, outside of mechanical or biographical notions of influence and worn-out distinctions between "high" and "low" culture' (p. 9). Like Foucault's notion of *episteme*, the juxtaposition of these 'cultural artifacts' results in a big picture that may not always appear plausible or coherent. On the other hand, the loose connection of events and the avoidance of giving only one authentic meaning to paintings, experiments, scientific theories, etc. lead to an interpretative freedom and to new insights. Apparently well-known episodes from cultural history and from the history of science seem quite different when observed through the looking-glass of attention.

The second aspect hints at the historical notion of attention itself. In contrast to theorists such as Simmel, Benjamin, and others, who had proposed a fundamental duality between attention and distraction, Crary argues that 'modern distraction was not a disruption of stable or "natural" kinds of sustained, value-laden perception [...], but was an effect [...] of attempts to produce attentiveness in human subjects. 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.' (p. 49). Here the history of science becomes crucial, because Crary gives overwhelming evidence that physiology, psychology, and medicine played a decisive role in the attempts to create and manage new regimes of attention. His emphasis on sensory physiological experimentation, instruments, models, and theories is known from his first book *Techniques of the Observer* (1990). There Crary argued that the discovery of subjectivity in early nineteenth-century physiological optics made vision into a process in which the perception of the world was not a given but the result of a physiological construction of the observer. Perception was thus conceived not as a passive, but as an active process. In consequence, empirical investigations of perception, motion, cognition, and pathological deviations led to 'powerful narrative models of subjectivity' (pp. 96–97).

While the topic of Crary's first book was the demise of the anchored classical observer in the first half of the nineteenth century, this book deals with the emergence of the 'unstable attentive subject' (p. 148), which on the one hand copes with the 'subjective limitations of vision and makes perception its own' and 'becomes open to control and annexation by external agencies' (p. 5). The central point is that until the mid-nineteenth century attention had been understood as the guarantor for the coherence, stability, and unity of mental life. It was not until the 1860s that attention was fundamentally reconfigured in the experiments of Helmholtz, Mach, Fechner, and other psychophysiologists. This understanding of attention as an experimental object had broad consequences. The reassuring bourgeois idea of attention as making us the masters of ourselves was replaced by the idea that attention is a motor act that is partly responsible for the shaping of perception itself. If attention was until then a virtue, typical of an educated and disciplined individual, it now became 'a continuum of variation, a temporal modulation, and it was repeatedly described as having a rhythmic or wavelike character' (p. 65). This new understanding was exactly the result of Fechner's (and others') experiments. Consequently, for the French psychologist Théodule Ribot attention was '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' (p. 64).

The destabilization of attention was not restricted to the laboratory. It was part and parcel of a broad tendency in society and culture. Attention became 'a fundamentally new object

within the modernization of subjectivity in the second half of the nineteenth century' (p. 17). A great deal of modern technology was established to manipulate attention in two directions. The goal was either to control the observer's subjective experience (e.g. with the tachistoscope and reaction time experiments) or to use attention as a dynamic system in order to enhance the capitalist world of goods, spectacle, and consumption. Crary collects numerous examples for the demonstration of this historical oscillation of attention between free-flow and control, (self)-disciplinary technologies and distraction. The three paintings by Manet, Seurat, and Cézanne each stand for a crucial aspect of this destabilization and re-synthesis of attention.

Since I am not in the position to judge Crary's art historical expertise and his analysis of the three paintings, I restrict myself to the question of which role the psychophysiological sciences play in this approach. Since the late 1980s or so—catalysed by Crary's first book and other influential studies by Christoph Asendorf, Barbara Maria Stafford, and Anson Rabinbach—we have been witnessing an ongoing fascination by cultural historians with the world of experimentation, instruments, and technologies including the phenomena they produced: images, graphs, diagrams, optical illusions, measurements, etc. Much of this work has contributed heavily to a more refined understanding of scientific practice: scientific images often follow (and sometimes shape) aesthetic conventions; self-experimentation and sensory physiology have had an impact on the construction of the modern subject; psychophysiological measurements in an industrial context are a central aspect in the history of the modern body. What is the result for a broader understanding of scientific developments in Crary's book? Such a question does not seem unfair, since he subscribes to Deleuze's proposal that 'philosophy, art and science come into relations of mutual resonance and exchange, but always for internal reasons' (p. 9). I fully agree with this claim, but the question of whether these 'internal reasons' are sufficiently and plausibly analysed remains tricky.

Crary's excursions into the history of science are undoubtedly based on profound research and an admirable knowledge of secondary literature. He gives fair and well-informed descriptions of John Hughlings Jackson's neurology, Helmholtz's theory of unconscious inferences, and Charles Sherrington's neurophysiological theory of integration. Nevertheless, the author leaves us with a hemianoptic picture when he emphasizes the holistic element in Sherrington's theory without mentioning that neurologists such as Kurt Goldstein, Viktor von Weizsäcker, and many others regarded reflexology as an important neurological doctrine, but at the same time criticized it as mechanistic and thus insufficient for a holistic conception of the human organism. Crary states that Henri Bergson criticized Helmholtz's 'unconscious inferences' as 'making perception into something mechanical and automatic' (p. 322), but he does not say that at the same time Ernst Mach attacked Helmholtz for exactly the opposite reason, namely that the 'unconscious inferences' were an irritating relapse into idealism. My point here is that the historical existence of a cultural artefact like the 'unconscious inferences' and reflexology is so complicated and sometimes contradictory that it is not so easy to take it as one coherent discursive field as Crary seems to suggest. This is ironic, since Crary has explicitly formulated his aim to liberate some modern key paintings from their interpretative chains and—quoting Roland Barthes—'"to remain attentive to the plural" of these paintings' (p. 9). It is a high price, if the multiplication of the meanings of one artefact is bound to the reduction of the meanings of another. I do not think that this is an unavoidable nemesis of any comparative cultural history, but Crary's extraordinarily rich study displays the possibilities and the dangers of this approach.

All in all, I would like to understand *Suspensions of Perception* as a contribution that fulfils Walter Benjamin's proposition about the use of history. This was the motto for Crary's first book: 'For the materialist historian, every epoch with which he occupies himself is only a fore-history of that which really concerns him.' This book is an admirable and earnest attempt to re-emphasize the importance of what Aleida Assmann has recently called 'transcending attention'.[3] This form of attention is deep and focused rather than superficial and widespread, resting and hesitating rather than free-floating, and serving for self-education and knowledge rather than for amusement and spectacle. Crary is not a conservative scepticist like George Steiner or Harold Bloom. He does not entirely cast off short-term attention and spectacle, because he knows that after having eaten the apple from the tree of the *condition moderne* there is no way back to a status quo ante. The alternative model is to use various forms of attention strategically so that information technologies are not the only manipulative masters of attention.

In his discussion of Cézanne, which is centred around the question of 'how the discontinuities and disjunctions [of attention] became the basis for new models of synthesis and perceptual organisation' (p. 330), Crary discovers the technologies of stasis as an antidote against the overwhelming flows of information. Instead of 'sweeping the eye back and forth over the visual field', he suggests 'patiently looking in a fixed way at local areas of the field'. Only thus 'does one begin to see its unknown texture, its strangeness, the unfathomable relations of one part of it to another, the uncertainty of how these local elements interact as a dynamic field' (p. 298). I cannot decide whether this is a correct interpretation of Cézanne, but it is certainly the technology of attention that Crary patronizes. In a brief epilogue, Crary regards Freud as having developed 'one of the most formidable techniques of attention to emerge in the twentieth century' (p. 367). In September 1907, Freud reported to his childen about his amusement among thousands of people in the Piazza Colonna in Rome. For Freud, suspension of attention was not only the right behaviour to enjoy that warm summer evening; in his *Recommendations to Physicians Practicing Psychoanalysis*, Freud claimed that suspended attention when listening to patients was a crucial diagnostic tool. Freud's emphasis on a technology of attention was certainly original; nevertheless, he relied on much older technologies and practices that had been developed in a medical and psychological context. As early as the late eighteenth century, the Berlin psychologist Karl Philipp Moritz programmatically called for careful introspection. He asked that we suspendedly observe the daily tide and flood of ideas and images in ourselves.[4] Thus, suspended perception for both the apparently important and less important aspects of ourselves was part of bourgeois self-experience from the very beginning, and it is no coincidence that Freud transferred this practice to the domain of psychoanalysis. Unfortunately, Crary's Foucaultian approach of assuming a radical rupture and discontinuity in the 1870s is inattentive to these diachronic continuities from the eighteenth to the twentieth centuries. Despite this flaw, it is a great merit of this complex book to have shown that technologies of attention had a fascinating history in modernity and are still relevant today.

[1] Georg Franck, *Ökonomie der Aufmerksamkeit* (Munich, 1998).

[2] Georg Simmel, 'The Metropolis and Mental Life', in *On Individuality and Social Forms* (Chicago, IL, 1971), pp. 324–39.

[3] Aleida Assmann, 'Einleitung', in *Aufmerksamkeiten*, ed. by Aleida Assmann and Jan Assmann (Munich, 2001), pp. 11–23 (p. 21).

[4] See Karl Philipp Moritz, 'Vorschlag zu einem Magazin der Erfahrungs-Seelenkunde. An alle Verehrer und Beförderer gemeinnütziger Kenntnisse und Wissenschaften, und an alle Beobachter des menschlichen Herzens, welche in jedem Stande, und in jeglichem Verhältniß, Wahrheit und Glückseligkeit unter den Menschen thätig zu befördern wünschen', in *Karl Philipp Moritz, Lesebuch*, ed. by Uwe Nettelbeck (Nördlingen, 1986), pp. 151–69.

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